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# ENERGY POLICY AND CONSERVATION ACT AMENDMENTS

Y 4.EN 2/3:103-129

Energy Policy and Conservation Act...

## HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

OF THE

COMMITTEE ON
ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

SECOND SESSION

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MAY 25, 1994

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**Serial No. 103–129**

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Printed for the use of the Committee on Energy and Commerce

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# ENERGY POLICY AND CONSERVATION ACT AMENDMENTS

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WEDNESDAY, MAY 25, 1994

House of Representatives,
Committee on Energy and Commerce,
Subcommittee on Energy and Power,
*Washington, DC.*

The subcommittee met, pursuant to notice, at 10 a.m., in room 2322, Rayburn House Office Building, Hon. Philip R. Sharp (chairman) presiding.

Mr. Sharp. The subcommittee will please come to order. We are here today to discuss the reauthorization of the various programs addressed in the Energy Policy and Conservation Act, better known as EPCA. All these programs aim to reduce our dependence on foreign oil.

Title I of EPCA creates the Strategic Petroleum Reserve. As we all know, the SPR has not reached the level of 1 billion barrels which was originally contemplated in EPCA—though it has reached the considerable size of 590 million barrels. Furthermore, these existing reserves of oil are presenting technological difficulties—the "hot and gassy" oil problem. With the limited amount of funds available, what should we do; buy more oil to fill the 160 million barrels of space that is available at a price of about $3 billion. Or should we fix the problems of temperature and gas accumulations in the existing reserve at a price of tens of millions of dollars. Should we take other actions, for example, on the regional product reserve? Or try to expand the reserve to 1 billion barrels? If we want to buy SPR oil, how should we fund it?

Naturally, as people will recall, we sought to get a private funding system, but were incapable of getting the political support to do so during the Energy Policy Act consideration.

EPCA also authorizes U.S. participation in the International Energy Agency's emergency oil-sharing program. We will take a look at the operation of this program and its relevance in today's much more decentralized international oil markets. It does seem clear, however, that the basic reliance in the IEA on oil-sharing and allocation seems to be questionable in the market that we have had in the 1980's and 1990's as the central operation of that Agency's critical work.

Certainly it seems that this chairman—and I know it is a growing consensus—that what we really need is a coordinated drawdown policy that is the prime policy of the IEA and that it is possible we should go forward with an oil allocation scheme which gives political comfort to a number of its members. But that reliance seems to be—the reliance on that as the mainstay policy of the IEA frankly just seems to be passe and out of date, given the developments in the market and the various policies of our various governments.

EPCA also produced numerous State and Federal initiatives to study energy consumption and find the most economically viable way of conserving energy or converting to alternative renewable energy sources. For a relatively small sum of Federal dollars, we are obtaining substantial private investments and measurable energy cost savings; all of these funds are being directed toward enhancing our energy security and reducing our energy consumption. What are the newest achievements of the State Energy Conservation Program and the Institutional Conservation Program? How much are we saving?

Finally, EPCA also seeks to help domestic industries by facilitating the export of the latest technologies in renewable energy and energy conservation through the Councils on Renewable Energy and Energy Efficient Technologies, known as CORRECT and COEECT. What areas of U.S. industry are benefiting from these Federal programs? Where is industry finding the newest overseas markets for these technologies? Are these agencies—do they present a good opportunity for U.S. industry in the opening markets of the Eastern Europe and the states of the former Soviet Union, for example? Will these programs enable the United States to be in the forefront of developing energy efficient technologies and renewable energy use in these countries, as we hope?

In addition, today some of our witnesses will comment on reauthorizing the Weatherization Assistance Program. The program was originally authorized in the Energy Conservation and Production Act, or CPA, of 1976, the alliterative sister statute to EPCA. This program reduces heating and cooling costs for low-income families by improving the energy efficiency of their homes. This is a program that saves 5 million barrels of oil each year. Reductions to the Low Income Home Energy Assistance Program threaten this program as well, and the subcommittee looks forward to hearing from witnesses how they view this program.

Today we will hear from witnesses directly involved with all of these programs. We hope to gain a better understanding of the effectiveness of these programs and how they promote the goal of enhancing the Nation's energy security.

With that, the Chair recognizes the distinguished colleague from Florida, Mr. Bilirakis.

Mr. BILIRAKIS. Thank you, Mr. Chairman, and thank you, of course, for holding this timely hearing on extending the authorizations for the energy security and conservation programs contained in the Energy Policy and Conservation Act.

I have been up here for 12 years and still cannot get over all the acronyms that we have in this government.

Mr. SHARP. And more to come.

Mr. BILIRAKIS. And more to come.

I believe it is important to hold hearings like this to examine whether or not these programs are accomplishing their goals and doing so in the most cost-effective manner. These programs cost millions of dollars each year, as we know, and we would be failing our duty to the American people if we did not engage in this type of review to assure the taxpayers' money is being spent wisely.

Overall, I am satisfied with the way most of the programs we are examining today are proceeding; however, I am extremely concerned about the manner in which the Weatherization Program, under the Energy Conservation and Production Act, has been administered. The ECPA Weatherization Program gives funds to low-income families in order to help them reduce their heating or cooling costs. ECPA requires these funds be allocated to the States according to a specific formula.

Moreover, it requires that the formula be updated each year to reflect movement in the population.

My understanding is that how this formula should be calculated is in dispute, Mr. Chairman, and that the current formula has the effect of penalizing southern States; and certainly, if movement of population has not been adequately taken into consideration, you can see where that penalty is certainly of concern. It has been estimated that my home State of Florida would receive an additional $2.2 million if the formula was changed.

Mr. Chairman, I believe if we are to reauthorize this program, which cost, as I understand it, approximately $200 million last year, we must assure ourselves that it is not being applied unfairly. The low-income residents of Florida and other southern States, and others that may not be southern States, certainly should not be penalized through misapplication of a formula.

Mr. Chairman, I hope we will be able to work together to resolve this important issue prior to reauthorizing the program. It certainly should be resolved.

Thank you.

Mr. SHARP. Well, I thank the gentleman for his testimony.

The Chair now is extremely pleased to welcome Mr. John A. Riggs, the Principal Deputy Assistant Secretary for Policy, Planning and Evaluation. As our colleagues know, Mr. Riggs was the director of the subcommittee staff for a number of years, and it certainly is a feather in the cap of the President that he would have the wisdom to appoint Jack to a position at the Department of Energy. I am sure the administration will find that, as the country will, to be a boon to its programs.

We are very pleased to have you with us today and will be happy to hear your testimony.

## STATEMENT OF JOHN A. RIGGS, PRINCIPAL DEPUTY ASSISTANT SECRETARY FOR POLICY, PLANNING, AND PROGRAM EVALUATION, DEPARTMENT OF ENERGY

Mr. RIGGS. Thank you, Mr. Chairman. Thank you for those kind words. It does feel a bit like a homecoming. I know the rule, and if I can submit my statement for the record, I would be happy to try to summarize.

Mr. SHARP. That is fine.

Mr. RIGGS. The administration proposal is to extend to 1999 three of the basic elements of our energy policy, the Strategic Petroleum Reserve, our international cooperation through the International Energy Agency, and several valuable efficiency and renewables programs that were initially authorized in the Energy Policy and Conservation Act.

It is fashionable among some groups to disparage what the Congress did in the 1970's in response to the first and the second energy crises, and we did have to repeal some of those actions during the 1980's, such as the Fuel Use Act and so on. But some things you did right, and I think EPCA was probably the prime example.

In 1975, in response to the first oil crisis, you established the Strategic Petroleum Reserve, our participation in the International Energy Agency, and several efficiency and renewable programs that are still priorities of our Government's policy today. The principles on which these were based is still valid.

First, we have to be able to respond to short-term energy crises, and the drawdown of stocks and coordination with our allies are the way we do that. Second, we need to deal with our long-term supply and demand imbalance and try to reduce the vulnerability of our economy by reducing our oil use, and the efficiency and renewables program tackles that problem.

Although prices are low now, and our supplies appear to be adequate, none of the three previous crises were anticipated; the Mideast is still a volatile area, and we are more than ever dependent on the Mideast and we will continue to be so as oil reserves are increasingly concentrated there. And against this backdrop, it is critically important we reauthorize EPCA. We have to keep our tools sharp.

Our proposal for the Strategic Petroleum Reserve includes several housekeeping measures, most quite minor. It is an opportunity to remove several outdated requirements and to change a few that are somewhat more significant. These deal with the Strategic Petroleum Reserve Plan with the requirement for capacity expansion, with the required fill rate, and with alternative financing mechanisms. Let me deal briefly with each of those.

We are proposing to remove the requirement for submitting a Strategic Petroleum Reserve Plan. Much of the Plan has consisted of requirements for how to build the reserve, dates by which we had to achieve certain milestones. The Plan is a very bureaucratic way of keeping up to date with what the Department is doing. It assumed the one-House veto that was in effect when the law was passed. It no longer seems to be a very efficient way to try and keep the Congress informed and for us to update our plans.

One part of the plan is still relevant and that is what is known as Plan Amendment No. 4, which laid out the distribution, or drawdown methods. We propose to make that policy, drawdown through competitive sale, a part of the statute in our proposed bill.

As you know, we are required by the previous law to submit a Plan amendment for how we would expand capacity to 1 billion barrels. The budget has constrained us from asking for and the Congress from supplying that money. It is quite unlikely that in the foreseeable future we will even get to the 750-million-barrel capacity that we now have.

We believe that if we lock in prematurely to a plan to expand capacity to 1 billion barrels, the Plan may be obsolete by the time we are able to use it. We think instead, and we propose in our legislation, that we will submit to the Congress a plan for expanding capacity to 1 billion barrels at such time as a pattern of appropriations or other funding shows that we can fill the 750 million barrels of existing capacity within 5 years.

The third element that we propose to change involves the statutory fill rate. The law now requires us to fill at a rate of 75,000 barrels of oil a day. Congress has had to waive that requirement in the appropriations bills for the last several years. And given the constraints on funding, we suggest that the requirement be deleted, and also that we delete the link between that mandatory fill rate and the Naval Petroleum Reserve sales authorization, the so-called Elk Hills trigger.

Finally, there is a provision in the statute now dealing with alternative financing. Given the difficulty of filling the Reserve with regular appropriations, one possibility is that we might find a creative "leasing" arrangement with a supplier. But there is a requirement that any such arrangement lie before the Congress for 30 days before we could sign a contract, and that lie-before requirement is a disincentive for any of our potential partners to reach some agreement with us.

There is also a possibility that if that 30-day requirement fell during a congressional recess or after adjournment, it could turn out to be several months, and that could make it difficult to reach such an arrangement.

Title II of EPCA deals with the International Energy Agency. Our policy here has been for many years to rely on a coordinated stockdraw regardless of the size of the emergency. The sharing system, as you mentioned in your opening statement, Mr. Chairman, we believe should be a last resort. It is the method of dealing with an emergency that is specified in the International Energy Program for emergencies of more than a 7 percent shortage.

We do not propose to change section 251 of EPCA, which allows us to allocate oil internationally to participate in an emergency sharing system. Many of our allies do take comfort in the existence of that system. However, we are working within the IEA to have accepted as their policy a preference for coordinated stockdraw and complementary measures for emergency of any size. Coordinated response measures would be our first response, our preferred response in any situation, and sharing would only be a last resort.

We do seek an amendment to section 252 of EPCA. That is the section that provides the antitrust defense for oil companies who participate in the emergency sharing system. We would like to extend that antitrust defense to the companies who assist the IEA in planning and implementing a coordinated stockdraw.

The rules for such participation are set out in detail. Our proposal has been written in coordination with the Justice Department and the Federal Trade Commission. The participation of the companies will be closely monitored, as it has been in the past. There have been no anti-competitive problems identified so far, and we believe that this amendment will help us to achieve our market-oriented policy for dealing with emergencies.

Finally, the provisions on efficiency and renewables in EPCA and ECPA are all simple extensions to 1999 of the existing programs without any amendments to the substance of those authorizing statutes. CORECT and COEECT are important programs to encourage the export of U.S. technology in efficiency and renewables areas. We think that is important, both in terms of our own competitiveness abroad and in terms of achieving energy security and improvements in the greenhouse gas emissions situation in developing countries.

The Institutional Conservation Program, or the Schools and Hospitals Program, which provides 50-50 grants for audits and improvements to schools and hospitals in the States is one of our most successful programs. We propose to authorize that without change.

The State Energy Conservation Programs provide a focus for a variety of energy programs in the States, and as you know, in the Energy Policy Act of 1992, the role of the States was strengthened in many areas alternative fuels, renewables, integrated resource planning, building efficiency, and a host of other things. We believe it is important that the program for providing support to these State energy programs be continued.

Finally, the Weatherization Assistance Program, which improves the energy efficiency of homes of low-income and elderly people and those with disabilities, we believe that is an important program. It is a win-win-win program, because it helps the needy by reducing their utility bills, it helps provide jobs for low-income people who do the weatherization, and it increases our energy security to the extent that we can reduce expenditures of energy in our homes.

In summary, Mr. Chairman, these programs are all central to our national energy policy. We believe they are working well. We look to you for guidance on ways we can improve them, but we do urge the committee to pass the bill.

Thank you.

[Testimony resumes on p. 31.]

[The prepared statement and responses to subcommittee questions of Mr. Riggs follow:]

## STATEMENT OF
## JOHN A. RIGGS
## PRINCIPAL DEPUTY ASSISTANT SECRETARY
## POLICY PLANNING AND PROGRAM EVALUATION
## U.S. DEPARTMENT OF ENERGY

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

I am Jack Riggs, Principal Deputy Assistant Secretary of the Office of Policy, Planning and Program Evaluation of the Department of Energy. I am pleased to appear before you today to describe the Administration's proposal to amend and extend to September 30, 1999 certain authorities of the Energy Policy and Conservation Act (EPCA), first passed in 1975, which will otherwise expire on September 30 of this year.

Programs authorized under EPCA are at the core of our nation's energy security. Today the price of oil is low -- about the same in constant dollars as it was twenty years ago, before the Arab oil embargo. Relative calm prevails in the oil market, but history should have taught us that this situation may not prevail for long.

EPCA was initially passed after the Arab oil embargo of 1973-74 when oil prices quadrupled and our nation suffered a major economic shock. Six years later, in 1978-1979, after the Iranian Revolution, oil prices tripled and concerns about oil supply escalated when oil production suddenly declined. The Persian Gulf crisis evolving from the Iraqi invasion of Kuwait began only three and a half years ago. It is still not fully resolved. We did not foresee these past oil crises and our crystal balls are probably no better now than in the past. It behooves us to avoid complacency about our energy security and to keep our tools for dealing with energy security problems in excellent working condition. And when we speak of maintaining our energy security, our primary concern is our capability to reduce our vulnerability to oil supply disruptions and deal with oil market disruptions.

This is the backdrop against which we work. As a nation we are currently enjoying the economic benefits of low oil prices and generous supplies of oil from a variety of worldwide sources, many of them newly important since the 1970s. On the other hand, the major sources of crude oil are still located in politically volatile areas, a condition that is unlikely to change in the near future. At the same time worldwide demand for oil is growing -- in many of the emerging economies more rapidly than in the United States. We recognize the continued contributions of the domestic natural gas and oil industry to U.S. supply as well as the industry's role as an important source of capital formation, technological development and employment in the U.S. economy. We also value the oil-displacement that can occur from enhanced energy efficiency and technological advances. However, we cannot expect to achieve complete energy independence. Thus we seek to limit our vulnerability to oil supply disruptions and enhance our ability to meet disruptive challenges.

The potential problem we may face is a sudden reduction in world oil supply, resulting in equally sudden increases in world oil prices. The challenge is to limit the economic damage ensuing from this disruption. The Energy Policy and Conservation Act authorizes two main weapons for addressing oil supply disruptions: the Strategic Petroleum Reserve (SPR) and our participation in the International Energy Agency (IEA). It also provides authorities to support our long-term efforts to reduce vulnerability through energy efficiency, renewable energy, and conservation programs.

We do not want to repeat our experience with price controls. We have learned the virtues of transparent pricing and prefer open markets where oil can be traded visibly and efficiently. The statement in the Energy Policy Act of 1992 on the role of price in drawdown and distribution from the Reserve is an important clarification for our preferred approach. But the availability of the Strategic Petroleum Reserve and the authorities granted under EPCA for participation in the International Energy Program provide us with the basic tools, and we need to sharpen these tools – to bring them up to date.

The last reauthorization of EPCA occurred just after the Iraqi invasion of Kuwait but before the first real-world SPR drawdown and the first comprehensive IEA emergency response. This is our first opportunity to incorporate these experiences in our SPR authorities. At the same time we must reflect the need for reduced budget deficits and cost-effective program operation. In addition, by extending the limited antitrust defense to U.S. oil company advice on IEA coordinated stockdraw we will be able to work with our IEA partners to ensure that coordinated drawdowns are always the first response to tight oil markets. At the urging of the Congress we have sought in the proposed amendments to update these energy security programs, to make them more cost effective, and to resolve issues which may hinder operational readiness.

We also propose to extend the authorization for five important energy efficiency and renewables programs. These include two programs promoting the export of U.S. energy efficiency and renewable energy technology programs known as CORECT and COEECT, the State Energy Conservation programs, the Weatherization Program, and the Energy Conservation Program for Schools and Hospitals. Let me proceed by discussing the current programs and the major proposed amendments.

## Strategic Petroleum Reserve Authorities in Title I

During the last 19 years the Strategic Petroleum Reserve has become the Nation's first and principal defense against supply interruptions. Its inventory of 592 million barrels of oil, held in five sites in Texas and Louisiana, is a significant deterrent to the use of oil embargoes as a political weapon, as well as substantial protection against the effect of actual or imminent disruptions in crude oil supplies. The Reserve vastly increased the flexibility of the United States to prosecute the embargo of Iraq and the Desert Storm war without concern that the hostilities would precipitously disrupt the availability of oil, and it may have been a factor in the relatively calm oil markets during the tanker war in the Persian Gulf in 1987-88. From an operational perspective, sales of oil during the war went smoothly, which clearly demonstrated the Reserve's ability to perform its mission if called upon. The Department has replaced all of the oil drawn during the war, and now has attained the Reserve's highest ever inventory level.

From an engineering perspective, the Reserve facilities have performed well to date but are approaching the end of their original design lives. The Department has instituted a comprehensive Life Extension Plan for the replacement and upgrading of all of the drawdown critical systems, so that the expected life of the Reserve will be 25 years in the year 2000. Because this Plan has been created on a system-wide basis, many of the redesigned facilities will have less pipe and fewer active components such as pumps, valves and motors, in part because operational requirements for capacity development have been satisfied. The benefits will be a higher level of reliability, less maintenance, and reduced chances of operational difficulties. The Department is dedicated to maintaining the existence of the Strategic Petroleum Reserve for the indefinite future.

SPR Amendments

The Act currently contains several requirements which have long since been satisfied or have expired. The bill contains many housekeeping provisions to make the Act current and thus reflect changed circumstances and past accomplishments.

The Plan: The Act currently requires that the Secretary maintain a Strategic Petroleum Reserve Plan, and specifies the details that must be included in the Plan. This was appropriate when the Reserve was in its planning phase during the mid and late 1970's. Now the Reserve consists of five storage sites with a cumulative 750 million barrels of storage capacity, and the Plan that details those sites has been completed. The Act also requires that the Plan specify the levels of fill for certain years, all of which are now in the past. The Administration's bill proposes that the requirement for the Plan and Amendments be deleted. The one remaining part of the Plan which is still necessary is the drawdown and distribution plan, Plan Amendment No. 4. The basic policy of distributing oil from the Reserve by competitive sale, contained in Amendment No. 4, is maintained by making that policy part of the proposed legislation.

It is the Administration's belief that free market sales are far superior to allocation as a method of distributing oil from the world's strategic reserves. While Plan Amendment No. 4 provides that public sales will be the primary method of distribution, it also allows the Secretary to allocate up to 10 percent of the sales volume. The Department has never used this allocation authority, and its existence may encourage some consumers to count on the Government rather than the market for supplies in an emergency. It will also put elected officials in the difficult position of having to accept or reject requests for help from various constituent groups. The bill that we have recently forwarded reflects the Administration's belief in market mechanisms and the impracticality of allocation; it does so by codifying open market sales to the highest bidder as the method of distributing Strategic Petroleum Reserve oil.

Expansion: As the Committee is aware, the Department has been under obligation to produce a Plan Amendment detailing expansion of the Reserve to one billion barrels. While we have conducted the requisite studies, analyses and public hearings to pick sites and complete such a Plan Amendment, we have hesitated to take the final steps in the process because it is not clear that such a plan could be implemented within the time horizon for which the studies were relevant. Due to budget constraints that we all recognize, the Administration is not prepared to forecast a schedule date for reaching the current fill capacity of 750 million barrels, and certainly not the timing for expansion. Nevertheless, the Administration recognizes Congress has spoken on the ultimate size of the Reserve, and the bill therefore requires that the Secretary report to the Congress on plans to expand at such time as a pattern of funding develops which would be likely to fill the existing facilities within five years. This deferred requirement would replace the current requirement that the Secretary submit a Plan Amendment for expansion to one billion barrels. Making the plan dependent on funding will prevent a premature plan that might be obsolete for environmental, commercial, or other reasons by the time implementation is needed.

Statutory Fill Rate: Similar to the requirement for a Plan, the Act contains a requirement for filling the Reserve at a rate of 75,000 barrels of oil per day until the Reserve has reached 750 million barrels. While we are sympathetic with the desire to complete the 750 million barrel Reserve, several administrations have requested a waiver of this requirement and several Congresses have granted such a waiver. Given that the fill rate is unlikely to approach 75,000 barrels per day in the near future, the Administration bill deletes the requirement and the linkage between the fill rate and the Naval Petroleum Reserve crude oil sales authority.

Alternative Financing: Another issue addressed by the Administration's bill is Congressional review of alternative financing contracts. Despite a low likelihood of substantial acquisition of oil by direct purchase in the near future, there may be opportunities for alternative financing contracts, including oil "leases" or similar arrangements, that might significantly reduce the financial requirements for oil stored within the Reserve. Unfortunately, current law imposes some requirements on alternative financing contracts that diminish the chances that such contracts could be successfully negotiated. Specifically, the Act requires that contracts that would not otherwise require any Congressional action nevertheless lie before the Congress for

30 legislative days before going into effect. This provision would add a time delay to already complicated contracts, and increase the uncertainty for the other party as to a contract's final conditions. Our counterparts for any potential contract would likely be dissuaded by this requirement. In order to give "leasing," or a similar form of contract, the best chance of success, the Administration bill proposes deleting the requirement for a 30-day congressional review period after a contract is signed. Instead, we commit to discussions with the appropriate committees before any contract is signed.

## International Energy Agency Authorities of Title II

I would now like to turn to Title II of EPCA, which contains the authorities needed for U.S. participation in the International Energy Agency (IEA).

The IEA was founded some 20 years ago in the wake of the Arab oil embargo and since that time has grown to be the primary forum for fostering cooperation on energy issues among the world's leading industrialized nations. Chief among its missions is to reduce Member nations' vulnerability to energy emergencies -- particularly, oil supply disruptions -- by supporting diversification of energy supply, improved energy efficiency, and increased international cooperation in energy research and development.

In anticipation of oil supply disruptions of the type experienced in 1974, the IEA's founding charter, the Agreement on an International Energy Program (IEP), provides for an emergency response system based on allocating oil supply among Members according to an established formula. The Emergency Sharing System, as it is commonly called, was supported by the United States as it seemed to be the right idea in an era of domestic price and allocation controls.

Starting in the late 1970s, however, U.S. energy policy in general shifted away from exercising regulatory powers to finding more flexible, market-oriented solutions. Since 1984, our policy regarding severe oil supply disruptions has been to rely on market forces to allocate oil supply and to ordinarily supplement supply by the drawdown of the Strategic Petroleum Reserve in coordination with our allies and trading partners. Also in 1984, at the urging of the U.S., the IEA Governing Board agreed in principle that coordinated stockdraw by IEA members was a necessary and desirable component of responding to an oil supply disruption, particularly in its early stages.

Recognizing the integrated and growing dynamic nature of the oil market, we have continued to promote our policy of market reliance and stockdraw as the most effective way to mitigate the economic damage of a supply disruption.

With regard to IEA emergency response policy, it is our view that member countries should rely on stockdraw and measures complementing stockdraw for as long as practicable, and additionally, that this policy should be pursued by the IEA regardless of the size of the disruption. In other words, even if the disruption is large enough to activate the Sharing System, we believe stockdraw is the appropriate first response. As a corollary, it is our position that the Sharing System should be activated only as a last resort. On the other hand, as part of our obligation to our allies, we remain firmly committed to all of our IEP obligations, including full support of the Sharing System, should it ever be activated.

Although this position has been met with a certain resistance in the IEA, under the Clinton Administration we have increased our efforts to have the IEA adopt these principles. Reauthorizing the EPCA with the amendments we propose will demonstrate our ongoing commitment to the IEA and, as well, to provide an additional underpinning in pursuit of our preferred market-based emergency response policy.

In support of our ongoing commitment, we urge the Committee to retain the authorities now included in EPCA. In this connection, we ask you to extend Section 251, which provides for mandatory international allocation should this ever be required. Such mandatory allocation is a last resort in Sharing System operations and cannot be imposed on a country by the IEA; the decision to implement lies with each Member. Although the Sharing System may never be activated, this section of the statute is highly symbolic of our support for the IEA, particularly for those members who need reassurance that, despite our lack of enthusiasm for the Sharing System, we remain fully committed to the cooperative energy security goals of the IEA.

Section 252 provides limited antitrust and breach of contract defenses to U.S. companies in connection with their voluntary participation in the planning and implementation of the Sharing System. Activities now covered include: consulting in IEA meetings concerning disruption situations and possible IEA response actions; providing supply information required for such consultation and otherwise required to implement the System; making voluntary offers to buy and sell petroleum so as to achieve the international distribution of supply intended by the Sharing System; and taking part in Sharing System exercises and tests.

The various rules governing company activities are set out in great detail in the Voluntary Agreement and the Plan of Action required by this section. The statute requires the Government, including the Department of Justice and the Federal Trade Commission (FTC), to closely monitor company activities and maintain extensive records of such monitoring. In their reports to Congress, both Justice and the FTC have consistently concluded that the companies' involvement has had no anti-competitive effects.

The additional underpinning we seek for our preferred IEA policy involves amending the limited antitrust defense to allow us to take advantage of U.S. company expertise in connection with coordinated stockdraw. In doing this, our IEA-related authorities will be brought into line with our oil disruption response policy.

The proposed amendment is sensitive to concerns previously expressed by the Congress about the potential for anti-competitive action by companies. It limits the overall scope of covered activities to those in support of IEA Governing Board emergency response plans. It further restricts these activities to advice and consultation unless the Attorney General determines that additional actions by companies are required. And all activities are subject to the various monitoring, reporting and record keeping requirements imposed by the current statute and the Voluntary Agreement and Plan of Action. This amendment was developed in conjunction with the Department of Justice and the FTC, and I feel confident that the safeguards we have built in are sufficient.

## Efficiency and Renewables Programs in Titles II and III

Title II of the EPCA (as amended by subsequent legislation) authorizes the Committee on Renewable Energy Commerce and Trade (CORECT) and the Committee on Energy Efficiency Commerce and Trade (COEECT). Title III of EPCA established the State Energy Conservation Programs (Part D) and the Energy

Conservation Program for Schools and Hospitals (Part G). The proposed legislation provides authority for these valuable and successful programs through fiscal year 1999.

These programs have taken on renewed importance as a result of the resurgence of interest in energy efficiency and renewable energy use in the 1990s. This renewed interest is tied directly to concerns for economic security and competitiveness and for environmental sustainability. These concerns -- energy, environment, and the economy -- culminated in the passage of the Energy Policy Act of 1992. The EPACT places a renewed emphasis on deployment of sustainable energy technologies and the programs authorized in EPCA are central to achieving this goal.

Committees on Renewable Energy Commerce and Trade and Energy Efficiency Commerce and Trade

The Administration strongly supports reauthorization of these programs to promote the export of U. S. energy efficiency and renewable energy technologies and products. The world is 75 percent dependent on fossil fuels for its energy, and energy consumption will continue to grow for the foreseeable future -- particularly in developing countries.

Sustainable energy technologies -- energy efficiency and renewable energy -- will play the major role in meeting the Global Climate Treaty goals. This is true for both the developed and the developing nations. International market opportunities for new "green" products and services are enormous. Currently, there is a global market of an estimated $200 billion for environmentally benign goods and services. The Office of Technology Assessment estimates that this market could grow to $300 billion by the turn of the century.

The Committee on Renewable Energy Commerce and Trade (CORECT) is an interagency committee whose 14 Federal agency members, in conjunction with representatives of private industry, develop and implement strategies for the enhancement of U. S. exports of renewable energy technologies. CORECT coordinates its efforts with the Trade Promotion Coordinating Committee (TPCC) chaired by the Department of Commerce to assure a unified approach to export assistance. In FY 1994, the Department has instituted the Americas' 21st Century Program which represents the initial implementation of the export strategy developed by CORECT. This program seeks to leverage Federal funds through export generating joint ventures in the Latin American and Caribbean region. Both CORECT and the Americas' 21st Century Program provide a means for the U.S. renewable technology industries to participate in the formulation and implementation of Federal export assistance strategies.

The Committee on Energy Efficiency Commerce and Trade (COEECT), newly created in accordance with Section 1207 of the Energy Policy Act of 1992, seeks to replicate

CORECT's success for the U.S. energy efficiency industries. Because the potential worldwide efficiency market dwarfs that for renewable technologies, COEECT's efforts are even more crucial to the success of public/private coordinated export assistance efforts. COEECT's activities are also coordinated with the TPCC to minimize the possibility of overlapping efforts. The Energy Efficiency Export Counsel (EEEC), a consortium of five energy efficiency industry associations, has been created to assist COEECT in the identification of target geographical regions and in the development of its export strategies.

### Energy Conservation Program for Schools and Hospitals

The Institutional Conservation -- or Schools and Hospitals -- Program (ICP) provides 50/50 matching grants to public and private non-profit institutions to help them save energy -- and thereby reduce their operating costs. They are used for detailed energy analyses and for the installation of energy-saving capital improvements. From 1979 through 1993, approximately $889 million was appropriated for the ICP. During that period, over 68,000 buildings were made more energy efficient; cumulative savings are estimated at $5.1 billion, over five times the Federal investment, and of course they continue to grow. There are an estimated 312,000 eligible school and hospital buildings yet to be improved.

### State Energy Conservation Program

The States have a key role to play in sustainable technologies. Areas of focus for

State programs, in partnership with DOE over the next decade, include: alternative fuels and alternative fueled vehicles; efficient electric motors and drives; power production from renewable resources; integrated resource planning; industrial waste minimization and waste-to-energy technologies; building efficiency; and solar industrial process heat. These are but a few of the specific areas where States must play a major role in helping to define and to implement our national energy agenda.

The State Energy Conservation Program (SECP) was enacted to promote energy efficiency and the adoption of renewable energy measures and to reduce the growth rate of energy demand. An important new program goal, for each State, is a 10 percent improvement in its energy efficiency by the year 2000 compared with 1990. Funding is formula based and is provided for the implementation of State plans submitted each year to DOE.

States also serve as laboratories where innovative approaches to energy challenges are devised, tested, and -- subsequently -- replicated on a wider scale. There are many examples of successful innovations begun in one State and later adopted by others. The Indiana Department of Commerce and Energy Policy, for example, operated a revolving loan fund -- under its SECP program and using petroleum violation escrow funds -- to help finance "cutting edge" commercial and industrial energy efficiency technologies. The $6.8 million loaned by the State, under this program, leveraged an additional $24 million in private capital. The result was significant energy and cost savings for the 10 participating enterprises. A Wyoming electric motor testing project has resulted in several spin-off demonstrations of energy efficient motors including projects that directly benefit DOE's pumping operations on the Naval Petroleum Reserve near Laramie. Other examples include a range of education, testing, and alternative fuel programs -- targeted at fleet operators -- which has reduced petroleum consumption in many States. Washington, California, and Hawaii have instituted telecommuting programs. Several others, including Indiana, Alabama, Colorado, Vermont, New York, and Georgia, have established successful industrial technical audit programs.

The SECP is a key source of support for the State Energy Offices; without it many would not exist or would be severely curtailed. The State Energy Offices, in addition to managing the SECP, also administer the Schools and Hospitals and -- in many cases -- the low-income Weatherization program. Maintaining a strong State Energy Office capacity, and the delivery network these offices comprise, is essential to the success of EPACT -- and coordinated energy, environmental, and economic policies for the 1990s and beyond. The Federal government, by reauthorizing this program, sends a strong signal of support for the deployment of energy efficiency and renewable energy technologies, services, and products -- and its understanding of the vital role of its partners in State government.

## Weatherization Assistance Program for Low-Income Persons

The Department also strongly supports reauthorization of the Weatherization Assistance Program, which was initially authorized by the Energy Conservation and Production Act. This program works in partnership with States and local service organizations to increase the energy efficiency of residences occupied by low-income citizens, particularly the homes of the elderly and those with disabilities. An estimated 27.9 million households are eligible to receive this assistance. Through FY 1993, over 4.2 million low-income homes were weatherized under this program.

In FY 1995, the Weatherization program will support approximately 12,700 jobs through its network of State and local weatherization agencies, thus helping to strengthen the economy in hundreds of local communities. About 126,600 low-income homes will be weatherized. As a result, the energy efficiency of these homes will improve and clients' annual energy costs will be reduced (for example, based on a study completed by Oak Ridge National Laboratory in 1993, weatherized homes save an average of about 18.3 percent of gas used for space heating each year). With lowered energy consumption, there will also be environmental benefits. The Oak Ridge study concludes that this program has a favorable benefit-cost ratio of 1.72 to 1.

In summary, the energy security and sustainable energy programs updated and extended by the Administration's proposed bill are central to our national energy, economic, and environmental strategies. I urge its prompt passage.

# ANSWERS TO QUESTIONS IN THE INVITATIONAL LETTER, DATED MAY 2, 1994

Question 1: In view of limited available funds, which of the following actions on SPR should have the most priority? Which are less important?

- Fixing the "hot and gassy" oil problem.
- Ordinary maintenance and life extension repairs and capital improvements to the SPR sites, piping and pumps, terminals, etc.
- Filling crude oil from the current level of 590 million barrels, into currently available but empty storage sites, up to the 750 million barrel level.
- Enlarging SPR storage capacity from the current 750 million barrel level to one billion barrels.
- Increasing drawdown capacity in a crisis from the current maximum of over 4 million barrels per day (for a short period), to over 6 million barrels per day (for a short period).

Answer: The Department has for several years maintained a Strategic Plan for the Reserve that has made its priorities explicit. Our highest priority is near-term readiness. The three activities in this category are: normal operations and maintenance; the degassification of oil with excess gas; and one capital project, the installation of heat exchangers to mitigate the "hot" oil problem. The second priority is implementation of the Life Extension Program, which would give all drawdown critical systems a life expectation of 25 years by the year 2000. The third priority is oil acquisition to fill the existing Reserve capacity to 750 million barrels. The fourth priority is expansion of storage capacity to 1 billion barrels, and the fifth priority is acquisition of oil beyond 750 million barrels. Increases in drawdown and distribution capability would only be considered within the context of expansion beyond a 750 million barrel Reserve.

The Administration's FY 1995 budget reflects this plan in that it provides all of the funding needed for near term readiness, and transfers funds from the SPR Petroleum Account to the Strategic Petroleum Reserve Account for operations and maintenance and the Life Extension Program. The Department will try to fill the existing caverns if it can negotiate alternative financing "leases" or other similar contracts that would reduce the cash required to acquire oil relative to purchase. The budget does not propose to spend any money on expansion, fill beyond 750 million barrels, or distribution enhancements.

## ANSWERS TO QUESTIONS IN THE INVITATIONAL LETTER, DATED MAY 2, 1994

Question 2: Should the SPR have been used earlier than it was used in the recent Gulf War? Do you agree that it didn't need to be used before and during the war because there was "no physical shortage" of oil? Are there ever physical shortages in large, deregulated, liquid commodity markets?

Answer: At the time of the Iraqi invasion of Kuwait, a debate occurred within the Bush Administration on whether to sell oil from the Strategic Petroleum Reserve. The argument in favor of selling oil was that the uncertainty in the market would cause an immediate speculative demand for oil and increase prices to the detriment of an already weakening economy. Among the arguments opposing sales were the arguments that the world had very high levels of petroleum inventories and that rising prices would cause additional supplies to come to market at the same time as demand was suppressed. In retrospect, both arguments were correct. After the initial oil price surge associated with the invasion in August, oil prices gave up half of their gain by the first day of the Desert Storm offensive in January, and gave up the rest on the first day of the war. However, the effects of the price surge and the war in general contributed to the 1991 economic recession. From a macroeconomic viewpoint, it probably would have been preferable to have sold oil from the Reserve in August 1990, to restrain the price increase and prevent the price increase's dampening effects on the U.S. economy.

In answer to the question regarding "physical shortages," such shortages might occur temporarily in cases of logistics disruptions that result in oil not being available in particular localities at any price. Given the diversity of the world's oil supplies, such conditions should never occur in the United States except in the event of a wide scale war, or short-term events such as natural disasters that temporarily disrupt regional supply systems. In general, price will serve to allocate whatever supplies are available.

## ANSWERS TO QUESTIONS IN THE INVITATIONAL LETTER, DATED MAY 2, 1994

Question 3: Do you agree with the IEA that there was "no physical shortage of oil" before and during the Gulf War? Should IEA emergency actions be undertaken only if such physical shortages probably occurred? How can 5% or 7% physical shortages be quickly or workably verified?

Answer: Given the dynamic nature of today's international oil market, what we experience in a disruption is not a "shortage" (for example, empty tanks) but a rise in price; except for regional logistical disruptions, supply will always be available at some price. The Gulf War did result in a significant loss of world oil production, but this was offset eventually by an increase of supply from other sources. IEA members did not suffer a "physical shortage" in the interim as they were able to withstand the rise in price and acquire the oil they needed. In a technical sense then, the IEA was correct in determining there was no "physical shortage" of oil during the Gulf Crisis.

On the other hand, the increase in world oil prices that occurred in the market as it performed its task of allocating available supplies almost certainly contributed to the length and depth of the recession. U.S. oil disruption response policy, which we reviewed and re-affirmed earlier this year, responds to the fact that the most significant danger we face in a disruption will be the severe economic damage resulting from the rise in price, not the danger of a physical shortage. It is one of the goals of this Administration to urge the IEA to move away from its strong focus on physical loss of supply, and to recognize the compelling need to address disruption-induced economic damage.

Since we know generally the quantity of crude that producing countries are exporting, it would be possible to develop a gross estimate of the size of a disruption. Given today's market, however, it would be very difficult to quickly or accurately determine the impact on an individual IEA member or group of members. As trading occurs, the supply profile of an individual country would be almost constantly changing. However, the IEA believes that its emergency data system will allow this determination, if not concurrently then at least in retrospect.

## ANSWERS TO QUESTIONS IN THE INVITATIONAL LETTER, DATED MAY 2, 1994

Question 4: Should Congress repeal the stand-by oil price and allocation controls in section 251 of EPCA?

Answer: If we are to live up to our International Energy Program obligations should the Sharing System ever be activated, we need the authorities now included in EPCA. Section 251 provides for mandatory international allocation should this ever be required to achieve the distribution of supply intended by the System. Such mandatory allocation is a last resort in System operations, and would be instituted only if, after a protracted period of time, voluntary industry cooperation did not work. The IEA cannot impose mandatory allocation on a country; the decision to implement it lies with each member.

Although it may never be implemented, this section of the statute is highly symbolic of our support for the IEA. This is especially true for those members who need reassurance that despite our lack of enthusiasm for the Sharing System, we remain fully committed to the cooperative energy security goals of the IEA.

Question 5: In a crisis, would transfers of cheap, price-controlled oil to an IEA nation be, in effect, a large cash transfer from the U.S. to the receiving nation? Would it be easier to simply transfer cash to the receiving nation, and let it buy oil on the decontrolled world oil market?

Answer: The Agreement on an International Energy Program calls for the "fair treatment of all Participating Countries and basing the price for allocated oil on the price conditions prevailing for comparable commercial transactions." Thus, price controls would not be invoked for either voluntary transactions by companies pursuant to IEA allocation, or for transactions mandated under Section 251. Authority for price controls was included in Section 251 when it was first drafted, as it seemed to be the right idea in an era of domestic price and allocation controls.

Question 6: Would joint drawdowns of IEA nations' strategic stocks of oil be preferable to the IEA's "emergency sharing" oil program?

Answer: We would prefer that the IEA acknowledge a preference for flexible, market-oriented measures, based primarily on stockdraw, as a first response in all disruptions, regardless of the magnitude of the disruption. The Emergency Sharing System should remain a fundamental component of the IEA's emergency response program - especially given that some of our allies are concerned about losing physical access to supply - but it should be a measure of last resort. One of the goals of this Administration is to urge the IEA to adopt this more market-oriented response policy.

Question 7: What does the IEA sharing system do that adds to or improves upon the "commercial sharing" of oil which occurs every day as brokers, traders and futures dealers spread oil evenly among all global buyers?

Answer: At this juncture, the IEA's Emergency Sharing System provides some assurance of physical access to supply - a very important point to certain of our allies. Many IEA members agree that the Sharing System, if activated, would only marginally effect distribution of supplies in the market.

Question 8: Are there disadvantages to coordinating drawdowns of strategic stocks by several IEA nations? If the U.S. wished to use its SPR, but other IEA nations did not want to use their reserves, doesn't an agreement to act jointly on a consensus basis in fact prevent the U.S. SPR from being used?

Answer: An international response is highly effective because the volume of oil that potentially could be released into the market is greater than any single country's drawdown capability. The keys to alleviating the economic impact of severe energy supply disruptions are to restore initially a substantial portion of lost supply and then to assure potential buyers (including speculators) that this addition to supply can endure. Nothing could accomplish these aims so well as the availability of a very large volume of reserves. Further, the psychological effect of the 23 members of the IEA all taking steps to use their reserves in a coordinated fashion would most certainly have a quieting effect on the market.

In a severe oil supply disruption, the United States and its allies and trading partners have common risks and interests. A disruption of oil supply anywhere affects the price of oil everywhere. Likewise, a drawdown of strategic reserves by any nation will benefit all consuming countries. Given these commonalities, it is only fair that the burden of responding to a disruption be borne internationally. There should be no "free riders" among the major industrial nations.

While we believe that a coordinated drawdown is the fairest and most effective way to use stocks in an emergency, nothing precludes the U.S. (or any other country) from taking unilateral action. As well, multilateral action, short of a consensus, can be taken by IEA members who so agree. Thus, we see no disadvantages in this regard.

Mr. SHARP. Well, thank you very much. I appreciate your testimony, and as you know from your past experience on the subcommittee, we have always fought to try to fill the Strategic Petroleum Reserve, especially recognizing growing imports; and to stay well above—or at least stay with—and lose the 90 good day goal at some point. That has been historically the goal of the Strategic Petroleum Reserve.

But I have had to come reluctantly to the conclusion we are not going to find the public resources to do that. The previous administrations were already trying to cut back. The Congress was finding it hard over the last several years to come up with the dollars to do it. And the new administration obviously has found it hard to come up with the dollars to do it.

And while we tried in both the House and Senate to promote the idea that we store oil, private oil, which would end up costing a very slight fee—and I can't remember, I think it was half a cent per gallon of gas—we did not think the American consumers would choke on that as a major protection. But in fact, it is almost ludicrous the opposition that developed to it, but that is the political reality that we have—because of the opposition in the Bush administration and the oil companies and a few other groups, we did not adopt that policy in the House of Representatives, although this committee did. That has left us with no funding mechanism.

So I have to agree with the Department and the administration that it is naive for us to continue some of the obligations that we have in the statute, like the plan for the billion barrels. I don't know if you people put an estimate on what the costs are of just doing the planning, putting the people through the process to meet the requirements that are in there. Do you have any estimate on that?

Mr. RIGGS. We would estimate $7 million to prepare the plans for the capacity and about $10 to $12 billion to build and fill it with oil, depending on the oil price.

Mr. SHARP. But the point is, we just keep adding expense if we keep these requirements on the book; is that fair?

Mr. RIGGS. Yes. Much of the expense has already been incurred. Our concern is more that if we were to complete the plan now, put it on the shelf, if it is many, many, many years before we are able to begin to fill past the 750 million barrels, that plan may be obsolete by the time we get to it.

Mr. SHARP. Well, I can appreciate that. And plus, I imagine you continually face people harassing the Department to take action, invest personnel time and effort in some of these issues.

Let me just turn quickly to the IEA because that has been a growing concern of mine and others. Frankly, during the Kuwait situation, the IEA seemed to be very slow to be able to grasp the value of the reserves and drawdown policy and was ginning itself up in case of the need for allocation. And, yet, most of us have difficulty picturing how in this highly fluid, highly competitive world market one could allocate except under the most extreme circumstances.

So I guess in a way that is more of a statement than a question, if you want to follow up on it. It is just that it seems to me that the IEA, to remain significantly relevant in terms of the emergency situations, has not only got to be a data collector, but has to keep its focus primarily on what is the one tool that governments most quickly are in a position to affect, and that is the marginal supply, to the extent we have a reserve here and others have reserves that we have put aside. And that ought to be recognized in its formal processes.

I realize the administration is trying to advocate that, and I believe the previous administration was trying to get people to recognize that the allocation system really was not a very fruitful way to go, and most of us can only envision that being necessary in the most extreme circumstances.

Maybe you can comment on the status of that situation with respect to the policy in the IEA.

Mr. RIGGS. Well, since 1984, Mr. Chairman, it has been the policy of the IEA, largely at the urging of the United States, to promptly draw down stocks in the event of an emergency. The dispute has been over smaller emergencies—I mean, over larger emergencies. For smaller emergencies, there seems to be agreement that stockdraw is the way to go, along with complementary demand reduction measures. And what some countries want to rely more on is demand reduction rather than adding supply, and they have not relied on the same size stockpiles that we have.

The difficulty has been that some countries have believed in, or at least have wanted to keep in writing, the policy of sharing or allocation of oil among countries if the emergency reached a 7 percent supply reduction for various countries.

Now, we would not have to do that. It would be voluntary for the United States to participate in that. But we are working within the IEA to try to formalize what I think many of the countries agree with informally, and that is, even in a large emergency, we would move to stockdraw first and only use the sharing system as a last resort.

And, as you know, when the IEA and the U.S. Government, in their delayed wisdom in 1990, did finally act, it was through stockdraw, not through a sharing system.

Mr. SHARP. Right. And my own view was, the U.S. Government needed to be more aggressive at that point than it was on the question of stockdraw and might have saved economically both in Europe and the United States rather substantial sums of money.

With that, let me recognize the distinguished ranking chairman—chairman already.

Mr. BILIRAKIS. After yesterday's election, you may——

Mr. SHARP. One has to be prepared for any eventuality—the distinguished gentleman from Florida.

Mr. BILIRAKIS. I remember, Jack, a few years ago we devoted the entire hearing to the Strategic Petroleum Reserve; and I think you were the counsel at that time.

On the sharing arrangement that we have with these 14 other countries, do they share in the cost of filling of the reserve?

Mr. RIGGS. Mr. Bilirakis, I think you are mixing up the sharing system, which would be an international allocation of oil at the time of a crisis, and the stock building.

Mr. BILIRAKIS. I am putting those together and wondering if they share in the cost. As the trigger goes off, they would anticipate, and as you have indicated, they are a lot more comfortable knowing we have this reserve and that they would be assisted by it.

Mr. RIGGS. Yes, under the sharing system, if the system were triggered or implemented, some countries would receive oil, some countries would be asked to give up oil to the recipient countries, and all countries at that time would be required either from their private stocks or through the oil companies operating in their countries to deliver oil to the countries that had the larger shortfall. So, in that sense, everybody would be sharing in the cost at that time.

We do have some concern that not all countries are at their 90-day stockpile requirement, and there is a risk that if we rely on stockdraw and some countries do not have adequate stocks, they would, in effect, become free riders and we would have paid more than our share.

Now, clearly, we would benefit by the use of our stocks in that sort of a situation, and presumably we would be selling the stocks at a higher price. So the advantage would be there for the United States, but relatively less so than if all countries had 90 days of stocks.

Mr. BILIRAKIS. Well, the advantage would be there for the United States, but at the same time, there is that much less for our use if we are talking about a prolonged period of time; isn't that true?

Mr. RIGGS. Yes.

Mr. BILIRAKIS. So I guess I still do not know the answer to my question. The answer is, I guess, they do not share in the cost of our stock?

Mr. RIGGS. They do not share in the cost of our stocks. Many of them, Germany and Japan, have large stockpiles. Japan is building very rapidly. Each country pays for its own. Countries that do not have as large a stockpile have not paid what we would consider their fair share.

Mr. BILIRAKIS. Right. Let us go into the intent of the Congress when SPR was created. What is the philosophy of the Department in terms of the usage of the oil? Shall we say physical shortages versus economic uses. Lowering oil prices, if you will. What is the current philosophy and how does that compare to the intent of the Congress at the time?

Mr. RIGGS. Well, our current philosophy is to follow the intent of the Congress which you stated in the Energy Policy Act by adding a provision to the law. Originally, it required a physical shortage of oil, or it appeared to require a physical shortage. That seemed to constrain the administration in 1990. In the Energy Policy Act of 1992, a provision was added which I believe allows the Reserve to be drawn down for up to 30 days in anticipation of economic harm that would result from a price increase.

The discussion, if I recall it, was based on the assumption that prices could rise and begin to cause damage before the actual shortfall hit. Congress recognized that and said it would be appropriate to try to draw down reserves or stocks at the earliest possible date to prevent inventory building and psychologically driven price increases that would cause harm to the economy.

Mr. BILIRAKIS. So you see that as the current intent of the Congress and also the philosophy of this administration?

Mr. RIGGS. Yes, although I hasten to add, drawdown is at presidential discretion and would be considered on a case-by-case basis.

Mr. BILIRAKIS. Could it be used to raise prices?

Mr. RIGGS. Selling oil to raise prices?

Mr. BILIRAKIS. Buying oil to raise prices. In other words, a fluctuation in——

Mr. RIGGS. No, I think the original statute says we need to minimize the impact on the oil markets when we purchase oil. I assume that our interpretation of that would be, we are not supposed to go into the market and try to buy large quantities to raise prices.

Mr. BILIRAKIS. To raise prices.

Well, I am not sure in my own mind now. If it is intended to be used as an economic tool, then probably the raising of the prices might have just as much to do with the lowering of prices.

Mr. SHARP. There has always been advocacy, if we ever got enough money appropriated, that it might be used in a way to help production of stripper oil wells or things like that. Several members of our committee have done that, to be frank about it because of the limited amount of money that is being appropriated these days.

Mr. BILIRAKIS. That is a practical problem.

Mr. SHARP. It has not been—aside from other technical arguments, it has not been realistic, probably.

Mr. RIGGS. One of the criticisms of the Strategic Petroleum Reserve, of course, has been that we have put expensive oil into the reserve. We have tended to be worried about our energy security situation when prices are high, and when we are worried, we buy oil for the SPR. Our biggest purchases occurred in the early 1980's, and as a result, we have an average $27- or $28-per-barrel price for the oil we purchased, including transportation.

When the price is low, as it is now, people get complacent. We do not appropriate funds for it. There is no vocal constituency out there for long-term energy security, and we do not buy oil when it might be beneficial, not only for getting cheap oil in the Reserve, but also for providing stability in the market. What we buy would not impact world prices significantly, but it would be another element in world supply and demand.

Mr. BILIRAKIS. Well, let me go into ECPA, then. You would expect me to get to the allocation for weatherization, having heard my opening remarks. Can you go into how the formula is calculated and also the statistical information that is used to allocate weatherization funds? I know that the section 414(c) of ECPA requires the Secretary, beginning in 1991, to update annually the statistical information. So I just wonder whether that has been done, and how all this works.

Mr. RIGGS. Yes, it has been done, and you, sir, were a participant in the discussions that led to that statute. Probably Florida is a prime example of States that have grown rapidly in population, and if the data did not keep up with that, you were disadvantaged in the allocation of funds under the formula.

We were required by the 1990 statute to update the data annually, and we have done so. So as far as population growth is concerned, I think the formula is now working the way you had intended. It is my understanding that other factors still are of concern to warm weather States and there is discussion ongoing now about whether a fairer formula can be achieved.

As you know, that is a fairly divisive issue. It is not easily handled in the Congress. The Department, in 1992, asked the State Weatherization Directors Association, the National Association of State Community Service Programs, to try to see if they could come up with a consensus that we could then adopt; and they gave us a report that does have a slight majority opinion, but with several minority opinions attached, and we are reviewing that with them, trying to see if we can build a consensus that would—through a rulemaking, would allow us to adjust the formula in a way that is acceptable to all parties.

Mr. BILIRAKIS. Well, Cathy was just reminding me to ask you something that was in my mind anyhow, and that is timeframe. We are greatly concerned about all this, and you are the experts. I should think that you would come up with something, some sort of a recommendation, if you will, if it is not to the law, maybe recommend to us how we would change that formula or whether you would just change it on your own. But I do not think that we in this ivory tower should be shoving it down your throat.

Mr. RIGGS. We are trying to do that, and clearly it is more beneficial to all of us if we can do that through consensus; and that is the direction that we have taken.

In terms of timing, it would take us about 6 months to do an expedited rulemaking once we had the formula in place. The money has already gone out for this year and I think it does not go out for the next year until sometime in the beginning of 1995. So if we cannot achieve a consensus, at some point we may have to force a decision on the group with some people still unhappy. And we can do that through a rulemaking.

The difficulty, of course, then is that either you or some of your colleagues on the other side of the issue, if you do not like the formula that we have put in place, will be back trying to do it legislatively again.

Mr. BILIRAKIS. I realize we always try to protect our own turf.

Mr. RIGGS. Right. So we are seeking a consensus from all parties, and if it is not necessarily the best for their State, at least the best for all.

Mr. BILIRAKIS. So you feel by the end of this year something like that might be forthcoming?

Mr. RIGGS. That is our goal. It requires a little more give on the part of some of the parties than we have seen so far, but we are working towards that goal.

Mr. BILIRAKIS. Thank you. Thank you, Mr. Chairman.

Mr. SHARP. Thank you, Mr. Bilirakis.

I might add that—just quickly on that issue, that past history has shown the enormous political difficulty of our legislatively writing a formula; and so we engage in all kinds of things that make it so it is impossible to even tell what is coming out of the formula almost. But what tends to happen when the outcome is disguised and people cannot be angry at the moment at the process, then after the fact we say, why are these factors in there; and so it has become a complex thing.

I do think it behooves all of us, if we can avoid having to legislate what it will be, because it will be sort of a mad scramble, and I do think it behooves the Department to try to move forward as vigorously as it can to come up with as equitable a formula as it can. I am sure there will be complaints from all directions no matter what you come up with, but most of us, I think, recognize the existing system has got layers on it, as I understand it, as decisions have been made to grandfather in certain portions of the funds and whatnot into the formula. So it is just impossible for people to intelligently say, we know this is the way it ought to be divided.

Mr. BILIRAKIS. This is why it is important, I think, that they lead the way.

Mr. SHARP. Exactly right. For them it becomes highly political, too, because they get hounded by various Appropriations and other committees where an individual has particular sway from a certain part of the country, but nonetheless, we hope they can move forward independent of that.

Mr. RIGGS. I recall, Mr. Chairman, your State came out sort of in the middle, and so you were able to be objective on these formula rates.

Mr. SHARP. We preferred it to some of the worse alternatives. However, being parochial for a moment, I must insist that somehow the emergency funds that were allocated last year, we could not figure out why we would be lower than our neighboring States. We did not think Mother Nature treated us any better. But that is beside the point at the moment.

The gentleman from Washington, do you have any questions for Mr. Riggs?

Mr. KREIDLER. No, I do not. Thank you, Mr. Chairman.

Mr. SHARP. Well, thank you very much. We appreciate your time and attention to this. We will be moving forward to a markup on these issues, so we trust we will be working closely with the Department as we proceed.

We now have a large panel of witnesses. We have Mr. Edward Krapels, president of Energy Security Analysis; we have Ms. Deborah Bleviss, president of the International Institute for Energy Conservation; we have the Honorable Charles Boucher with the— oh, no, we have a substitute, Mr. Victor Rezendes is here with the General Accounting Office; we have Mr. Scott Sklar, executive vice president of the U.S. Export Council for Renewable Energy; Ms. Amy Stewart, secretary of NASEO; and, finally, we have Mr. James R. Norman, the executive director of Action for a Better Community, Inc.

Ladies and gentlemen, we are very pleased to have you with us. A number of you have testified before our committee before and are familiar with our rules. We will certainly make your written materials a part of our record, and we appreciate having your oral summary at this point. And rather than the way I read the names off the sheet, why don't we go down the way we have you at the table here?

Mr. Krapels, we will be happy to hear from you at this point.

## STATEMENTS OF EDWARD N. KRAPELS, PRESIDENT, ENERGY SECURITY ANALYSIS; VICTOR S. REZENDES, DIRECTOR, ENERGY AND SCIENCE ISSUES, RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT DIVISION, GENERAL ACCOUNTING OFFICE; DEBORAH L. BLEVISS, PRESIDENT, INTERNATIONAL INSTITUTE FOR ENERGY CONSERVATION; SCOTT SKLAR, VICE PRESIDENT, U.S. EXPORT COUNCIL FOR RENEWABLE ENERGY; AMY STEWART, DIRECTOR, ENERGY POLICY DIVISION, INDIANA DEPARTMENT OF COMMERCE, ON BEHALF OF NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS; AND JAMES H. NORMAN, DIRECTOR, ACTION FOR A BETTER COMMUNITY, INC., AND ON BEHALF OF NATIONAL COMMUNITY ACTION FOUNDATION

Mr. KRAPELS. Thank you, Mr. Chairman. I have submitted written testimony. To summarize that, I would like to talk briefly about two of the elements in the EPCA reauthorization, the Strategic Reserve, and especially the drawdown program; and, second, the IEA oil-sharing mechanism.

I am afraid to say that, without change, I think there is a substantial risk that the billions of dollars of taxpayer money invested in the SPR and the thousands of hours of negotiating time invested in the IEA will be wasted. In the one big chance both the SPR and the IEA had thus far to prove their worth, both fell far short of their potential. And I am referring, of course, to the oil market disruption that you have already characterized during the Iraqi invasion of Kuwait.

Here is the event for which EPCA was designed, and yet the impact of the SPR and the IEA was as dull as it could be. Much, much more could have been accomplished with better performance.

In a nutshell, I think what I would propose is that we need to, at worst, abolish the emergency sharing mechanism of the IEA, we need to rethink the IEA's role in the world, and we need to redesign our SPR drawdown policy significantly along the lines that Jack Riggs has already recommended.

When Iraq invaded Kuwait and oil prices jumped to $30, the SPR was not drawn down until January. The IEA was part of the problem, with both DOE and State Department officials devoting part of their time in Paris to managing the IEA's inept response to the crisis, rather than managing the crisis itself. Astonishingly, the IEA was a prominent opponent of the DOE proposal that the U.S. Strategic Reserve be drawn down, and as a result of U.S. and IEA equivocation, oil prices needlessly remained at the $30 level for months. And this dimension of the Bush administration's handling of the crisis was anything but expert. The DOE was not to blame because it was an advocate of using the SPR in August and September of 1990, but its ideas ran into opposition from other departments that understood oil markets less well than the DOE did.

There was and is a broad consensus among economists that a sudden large increase in oil prices is bad for the U.S. economy. One measure that I have heard used again and again at the Fed and at the IMF is that a $5 increase in prices lasting for one year can cause a 0.5 percent reduction in gross national product.

I believe this is still true, and thus, I believe that President Bush was badly served by those who opposed the SPR drawdown in August and September of 1990. In effect, oil policy was made by amateurs in the administration when the professional opinions in and out of the administration favored a prompt and sizable drawdown.

I believe that even a small drawdown can have a leveraged impact on the market. Why? Because the SPR is huge, at 590 million barrels. It probably does not need to be built up in an emergency or in a hurried sort of fashion. More importantly, it has impact because its 4-million-barrel drawdown capability presents an enormous threat to any oil trader who would consider "going long" in an oil supply destruction. So SPR drawdown policy needs to be retooled to reflect the fact that oil is now an efficient and mature global market; and that the SPR is not some foreign thing apart from it, but that the SPR is part of it, people are aware of it, and we might as well use it.

With the SPR, I believe that there is no longer a threat that oil prices will rise and remain at $30 to $40 levels. In 98 of the 100 scenarios I can envisage for the future, the last two scenarios are so adverse and severe I would dare say, the probabilities are very low and no amount of SPR drawdown planning would mitigate them. So, in a nutshell, what I am proposing is that the SPR drawdown policy be integrated somehow with the reality of today's future towards physical oil markets, which are totally different from the regulated utility that oil was when EPCA was first authorized or was first passed in 1975.

It may even make sense to consider or reconsider selling options to the SPR, and some revenues might even be available if such a program were to be designed.

Second, I think the Department of Energy should be encouraged to adopt a rapid SPR drawdown strategy as the default U.S. policy response, with or without the IEA, and that the IEA should not be allowed to deter the United States or prevent the United States from engaging in a unilateral drawdown if need be.

Finally, I think the emergency sharing provisions of the IEA should be scrapped. As long as they exist, they will complicate reactions to smaller disruptions.

Thank you very much.

Mr. SHARP. Thank you very much. We appreciate your testimony, again, Mr. Krapels.

[The prepared statement of Mr. Krapels follows:]

### STATEMENT OF EDWARD N. KRAPELS, PRESIDENT, ENERGY SECURITY ANALYSIS

The international oil market has changed dramatically since Congress enacted the 1975 Energy Policy and Conservation Act (EPCA). Many aspects of U.S. oil security policy are based on a world that no longer exists. The need to re-authorize some of the programs established by EPCA presents a useful opportunity to modernize our oil security policies, especially the Strategic Petroleum Reserve (SPR) and the emergency oil sharing program of the International Energy Agency (IEA).

Without change, there is a substantial risk that the billions of dollars of taxpayer money invested in the SPR and the thousands of hours of negotiating time invested in the IEA will be wasted. In the one big chance both the SPR and the IEA have had thus far to prove their worth, both fell far short of their potential. I am referring to the oil market disruption that followed Iraq's August 1990 invasion of Kuwait. Here was the event for which EPCA's security policies were designed, yet their impact was as dull as the dud bombs that fell from NATO aircraft in the actions against Bosnian Serbs earlier this month.

If the performance of the SPR and the IEA in future oil disruptions—which will surely come—is as bad as it was in 1990, Congress might as well scrap these EPCA programs, sell the oil from the SPR, and put the money in the Treasury. Why such a harsh view? Because as they are currently designed, these policy instruments are relics of oil's Middle Ages. International oil has changed, and our security policies need to change with it.

Twenty years ago, when Congress enacted EPCA, there was no international oil market. Instead, oil was a type of internationally regulated utility run by the major oil companies and their home governments. The global industry was composed of a core group of vertically integrated international majors, a large number of "national champion" State-owned oil companies, and some independents. There were practically no trading companies, and their role was marginal in the strictest definition of that loaded term. And oil careers were much more like civil service jobs than they are today. Anyone who became a senior executive for a major oil company could count on becoming fairly wealthy and had a much more secure career than he, or she, has today.

Oil policy has been swept up in all of the major forces that have shaped our world. First, it has been changed by the end of the cold war and the redefinition of national security. Twenty years ago, oil supply security was defined in terms of "shortages" caused by collective actions by the Arab oil exporting countries that were unhappy about, *inter alia,* U.S. policy towards the Palestinian problem. Twenty years later, we have learned that Arab countries are as diverse in interest and orientation as European nations, and the Arab/Israeli dispute no longer has much linkage with oil supply or price. More generally, Middle East political instability no longer elicits the deep concern about oil it once did: even Iraq's invasion of Kuwait did not revive enough anxiety to the United States toward a serious oil conservation program. Today's paradigm for oil security is not a national stockpile or a national oil company or "access to secure crude." Instead, it is Desert Storm, which taught us that the Arab world is hopelessly divided, that the rich conservative nations on the Saudi side of the Gulf are staunch allies of the "Western" world, and that their Iraqi and Iranian adversaries are not capable of developing a strategic threat to these countries that the United States and the United Nations cannot fix. This rather sanguine security view could change, especially if Iraq or Iran were to develop nuclear capability, but this is still too distant a prospect to affect American oil policy.

Second, oil has been caught up in the financial revolution. That revolution has accomplished many things. Above all, it has provided hedging mechanisms and their obligatory speculative counterparts. Many in Washington scorn these mechanisms and the "masters of the universe" that sell them. But these new mechanisms would not sell if there were not a need for them. And there is a need for them because the old structures that used to provide considerable protection against oil price risk are gone. The vertically integrated market created by the major oil companies is gone, as are the brilliantly conceived mechanisms—the Aramco partnership, the NIOC consortium, the Kuwaiti agreement—whereby the majors prevented surplus crude from upsetting the market for decades.

What replaced the majors—OPEC—is a shadow of its former self, and now seems to stand for Organization of Political Enemy Countries. Had OPEC been more effective in the 1980's, the crude futures and forward markets and all of the exotic derivatives they have spawned would have been stillborn. But OPEC's influence was eroded first by its huge misjudgments of 1979-80 (trying to institutionalize $30 crude oil price levels appropriate only for the brief period of market panic); then by Saudi Arabia's determined but ultimately doomed effort to hold up the $30 price structure from 1981 to 1985; then by the enmity between core OPEC members Iran, Iraq, and Kuwait; and finally by its members' underestimation of the power held by the financial community that became OPEC's rival for influence in the mid-1980's.

Fourth, the oil industry in the United States has been transformed by the harsh, even brutal, requirements of modern management theories. American oil companies have been "McKinseyed," sometimes nearly to death. Staff levels have been cut in half, employee productivity is at record high levels, and out-sourcing of everything from janitorial services to oil market analysis has become the norm. The gains in efficiency have been dramatic, as has been the toll on career security. This revolution is irreversible, and represents, a force that will sweep through the rest of the industry over the next decade. European, Japanese, and "national champion" oil companies in other regions will not be able to compete—or at least not without overt or covert subsidies from their governments—with the new, grimmer, slimmer oil merchants of the Atlantic Basin.

The oil business, in a nutshell, has become ever more efficient, swift, global, and sophisticated. Moreover, the effect of the financial community's embrace of oil combined with the increasing efficiencies of Anglo-Saxon oil companies results in chronic downward pressure on profit margins. The margins in petroleum production and refining are under the constant scrutiny of the wizards of Wall Street and the City of London. International petroleum commerce, to put it bluntly, has evolved (or devolved, if you prefer) out of an oligopolistic past (the pre-1973 era) through a regulated phase (the "OPEC decade" of 1974 to 1985) into a modern—indeed a very modern—market in the truest sense of that overused word. And one of the characteristics of an efficient market is modest profits and harsh operating circumstances.

And so we have a new paradigm for international oil: it is finally a market. That means oil policy-makers face a totally different situation now than in 1975, when EPCA became law. In today's complex oil market, as a result of the foresight of Congress and the Nixon and Ford administrations, we have a really large Strategic Reserve. If used, it could mitigate the adverse effects of 90 percent of the disruptions we are likely to face in the future. In today's complex oil market, the oil exporting countries are no longer united as a political block against the United States. Several have become among our closest allies. In today's global oil market, supply, demand and price are much better at coping with supply disruptions. We saw how well the market worked in 1990: prices rose in August, remained high as long as the Iraqi threat remained viable and as long as the United States failed to draw on its huge Reserves, and then collapsed as soon as it became apparent Iraq was no threat to Saudi Arabia.

In today's complex oil market, we no longer need to have in place some of the policies that "fight the last war," especially policies that call for government allocation and rationing, nor do we need institutional mechanisms whose job it is to implement these inappropriate policies.

In a nutshell, we need to abolish the emergency sharing program of the IEA, we need to rethink the IEA's role in the world, and we need to redesign our SPR drawdown policy. When Iraq invaded Kuwait in August 1990, oil prices jumped to $30, yet the SPR was not drawn down. The IEA was part of the problem, with DOE and State Department officials devoting part of their time to "managing" IEA's inept responses to the crisis rather than to the crisis itself. Astonishingly, the IEA was a prominent opponent of the DOE proposal that the U.S. Strategic Petroleum Reserve be drawn down. As a result of U.S. and IEA equivocation, oil process needlessly remained at the $30 level for months. This dimension of the Bush administration's handling of the crisis was anything but expert. The Department of Energy was not to blame, because it advocated using the SPR in August and September 1990, but its ideas ran into opposition from other departments that understood the oil markets less well than DOE did.

There was (and is) a broad consensus among economists that a sudden, large increase in crude prices is bad for the U.S. economy. One measure is that a $5 increase in oil prices can cause an 0.5 percent decrease in GNP. I believe this to be true, and thus I believe that President Bush was badly advised by those who opposed an SPR drawdown in the autumn of 1990. Oil policy was made by amateurs in the administration when virtually all professional opinion in and out of the administration favored a prompt and sizeable drawdown.

I believe that even small SPR drawdowns can have a leveraged impact on the market. Why? Because the SPR is huge—at 590 million barrels—and more importantly, because its 4 million b/d drawdown capability presents an enormous threat to any oil trader who might consider "going long" when a supply disruption occurs. SPR drawdown policy needs to be retooled to reflect the fact that oil is now an efficient global market, and that the SPR is part of it. With the SPR, I believe there is no longer the threat that oil prices will rise and remain at $30 or $40 per barrel levels in 98 of the 100 scenarios I can envisage for the future. The market has developed efficient mechanisms that will reflect quickly the enormous physical and psychological impact of an SPR drawdown in the face of supply uncertainty elsewhere in the system.

If this is the business environment of international oil, then its present and its future are very different from its past, and U.S. oil security policy can be simplified and streamlined to take these changes into account.

I would like to leave you with a new image about oil's place in the future. The image is that of today's oil market as a "virtual market", as in virtual reality. This phantasmagorical market sits on top of the physical market, but it stretches and turns in phenomenal ways. I don't mean this image to be critical in any way: the virtual market is dominating the physical market, and it will not go away. So the next time there is an oil crisis and an IEA meeting to deal with it, consider that at the same time the IEA Ministers gather solemnly in Paris, that there is another, more fantastic meeting taking place in the virtual oil market. At the virtual meeting sit the hedge funds and the oil market-makers, and what they decide is every bit as important as what the IEA ministers do. The SPR should be on the agenda of both meetings: at the IEA meeting, coordinated SPR drawdowns by those few member countries who have them should be the first line of defense, and not the last (which was the policy of the old guard); at the "virtual" meeting, paper oil traders should be taking their positions knowing that oil from storage would be released into the market.

It is time to recognize that the inflexible SPR drawdown policies and the emergency sharing provisions of the IEA were "hedges" designed in the 1970's for the conditions of the 1970's. To adapt them to the realities of the next 20 years, the following steps should be taken:

1. The SPR drawdown policy should be integrated with the financial markets that now dominate oil pricing. It makes sense to reconsider selling options to the SPR.
2. The Department of Energy should be encouraged to adopt a "rapid SPR drawdown" strategy as the default U.S. policy response to an oil supply and price disruption.
3. The Department of Energy and the State Department should take steps to ensure that the IEA cannot hinder U.S. efforts to develop a multilateral drawdown strategy.
4. The emergency sharing provisions of the IEA should be scrapped: they will not work. I am grateful for this opportunity to convey my views to the Congress and would be happy to answer any questions.

Mr. SHARP. Mr. Rezendes, we would be happen to hear from you

## STATEMENT OF VICTOR S. REZENDES

Mr. REZENDES. Thank you, Mr. Chairman, it is a pleasure to be here. You asked us to address three basic issues on work we have done at your request. I will remind you of those: (1) the relative priorities we should be giving to the several near- and long-term options for improving the readiness and expansion of the SPR; (2) the evolving role of IEA; and (3) the potential of enhanced revenues at the Naval Petroleum Reserve in Elk Hills, Calif. I will briefly summarize those for you.

Maintaining the SPR drawdown capability by resolving the problems of the geothermal heating and gas buildup in stored crude oil and replacing equipment that is at the end of its design life of 20 years, would both likely return benefits in excess of the relatively modest cost involved. As a result, we would rank these as a high priority.

Continuing to fill the reserve to its design capacity of 750 million barrels or expanding it to 1 billion barrels both entail much higher costs and would likely produce net benefits only in the more severe and longer-term disruptions. Given the competing budget demands, we would assign that option a lower relative priority.

The benefit of increasing the daily drawdown capacity of either the current or an expanded reserve are less clear. Doing so could enhance our ability to introduce larger amounts of oil into disrupted markets quickly and dampening the oil price increases and their related economic impacts. Also, the costs are likely to be comparatively lower than the cost of purchasing large amounts of additional oil or expanding the reserve. As a result, we would assign this option a medium priority.

Switching to IEA, the mission of IEA is evolving from one focused primarily on member country responses to oil disruptions to one based on a broadened definition of energy security that gives more emphasis to the impact of energy policies and global economic development, the growing importance of environmental impacts of energy production and use, and the need to enhance relations with nonmember countries. The need for enhanced relations with nonmember countries recognizes the increasing economic interdependence and the rapid growth in energy use of nonmember countries.

And, finally, enhancing revenues from the Naval Petroleum Reserve: We found it will be difficult for the Department of Energy to increase revenues from the sale of crude oil from the NPR by shipping the oil to the Gulf Coast or midcontinent refineries because of the relatively low quality of this oil and the shipping costs involved. We may be able to enhance revenues by doing certain other things, however: replacing the current oil price index; not necessarily invoking the preference to small refineries for purchase of oil; adopting the industry standard billing practice; and, finally, more aggressively marketing the oil in California.

Thank you, Mr. Chairman.

Mr. SHARP. Thank you very much.

[The prepared statement of Mr. Rezendes follows:]

## STATEMENT OF VICTOR S. REZENDES, DIRECTOR, ENERGY AND SCIENCE ISSUES, RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT DIVISION, GENERAL ACCOUNTING OFFICE

Mr. Chairman and members of the subcommittee: We are pleased to discuss the results of our ongoing and recently completed work as it relates to the reauthorization of the Energy Policy and Conservation Act. Specifically, you asked us to summarize the results of our work performed at your request on (1) the relative priority that should be given to several near- and long-term options for improving the readiness and expansion of the Strategic Petroleum Reserve (SPR), (2) the evolving mission of the International Energy Agency (IEA), and (3) options for enhancing the government's revenue from the sale of crude oil from the Naval Petroleum Reserve (NPR) in Elk Hills, California, including the possibility of selling the oil to Gulf Coast and mid-continent refiners. At your request, my statement today will focus mainly on the first issue.

In summary, our work to date indicates that: resolving problems that affect readiness like geothermal heat and gas buildup in stored crude oil and replacing equipment that is at the end of its design life would correct or prevent the significantly degraded ability of the SPR to respond to oil disruptions. We ranked this option as high priority. Continuing to fill the reservoir to its current capacity of 750 million barrels or expanding the reserve to hold 1 billion barrels both entail much higher costs. Considering the potential benefits and competing budget demands, we gave this option a lower relative priority. The benefits of increasing the SPR's daily drawdown capability are less clear. But doing so would increase our capability to respond more flexibly to oil disruptions, and would likely entail more moderate costs. We ranked this option a medium priority.

The mission of IEA is evolving from one focused primarily on member country responses to oil disruptions to one based on a broadened definition of energy security that gives more emphasis to the impact of energy policies on global economic development, the growing importance of the environmental impacts of energy production and use, and enhanced relations with IEA's nonmember countries. The need for enhanced relations with nonmember countries recognizes (1) the increasing interdependence between the economies and energy markets of IEA and the nonnmember countries and (2) the rapid growth in energy use of the nonmember countries.

As indicated in our recently issued report,[1] it will be difficult for the Department of Energy (DOE) to increase revenue from NPR oil sales by selling oil to Gulf Coast or mid-continent oil refineries because this oil is of lower quality than other available crudes and shipping costs are high. DOE may be able to enhance revenues in several other ways.

With respect to the SPR, you asked us to analyze the potential costs, benefits, and relative priority of (1) eliminating problems related to the buildup of the heat and gas content of some crude oil in the SPR; (2) replacing existing facilities and systems to extend the useful life of the reserve; (3) filling the SPR to the current 750 million barrel capacity, or expanding and filling the SPR to 1 billion barrels; and

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[1] Naval Petroleum Reserve:, Limited Opportunities Exist to Enhance Revenues From Oil Sales in California (GAO/RCED-94-126, May 24, 1994).

(4) increasing the daily draw-down rate from 4.5 to 6 million barrels for the SPR's current size, as well as for a 1 billion barrel reserve.

The Energy Policy and Conservation Act authorized the creation of the SPR to store up to 1 billion barrels of crude oil for use during a disruption in the oil supply. Currently DOE, which manages the reserve, has developed a capacity to store 750 million barrels of oil in Gulf Coast salt dome caverns and to drawdown the reserve at a design maximum rate of 4.5 million barrels a day. Since fiscal year 1976, Congress has appropriated about $21 billion (or about $33 billion when adjusted for inflation to 1994 dollars) for SPR programs and activities. As a result almost 600 million barrels of crude oil has been stored.

In conducting this analysis we held extensive interviews at DOE headquarters and the SPR program office and reviewed numerous related studies and evaluations. We also used a DOE model that is designed to examine the costs and benefits associated with a variety of size and draw-down issues. The benefits largely come from replacing oil that is unavailable because of disruptions with SPR oil, thus dampening oil price increases and their resulting impact on the Nation's economy. The model allows us to make different assumptions about the probability and length of disruptions, oil prices and the quantities of oil available in the market place, market price elasticities, the impact of oil price increases on the gross national product, discount rates, and other parameters. We used the model to evaluate the net benefits of addressing the readiness and expansion issues listed above under various assumptions or scenarios. These scenarios ranged, for example, from short minor disruptions to longer, more severe disruptions. We also varied how responsive the market is in terms of price adjustment and replacement of disrupted oil.

In the SPR, the amount of oil available for drawdown and total daily draw-down rates have been lessened by elevated temperatures of the stored crude oil due to geothermal heating, and the high gas content of some of the oil, caused primarily by the intrusion of methane from the surrounding salt formations. These conditions diminish DOE's ability to drawdown the oil because as a result of the heat and gas buildup, the vapor pressure of the oil is above safety and air pollution limits. The vapor pressure must be reduced to ensure that the SPR can deliver crude oil at the proper specifications for commercial transportation and refining.

As early as 1984, DOE had indications that crude oil stored in the SPR had elevated temperatures and excessive gas content. However, early test results to determine the scope and impact of the problem were inconclusive. After becoming convinced in 1993 that the problems were significant and widespread, DOE established a Vapor Pressure Task Force consisting of SPR personnel, various contractors, and representatives of DOE's national laboratories, to define the full extent of the problem and develop corrective actions. While tests continue, DOE now estimates that about 400 million barrels, or two-thirds of the oil, are affected. Through a combination of blending of the affected and unaffected oil and observing certain operating restrictions, DOE estimates that about 520 million barrels could be drawn out of the reserve without further corrective actions, but only at a maximum daily draw-down rate of about 2 million barrels per day, which is less than half the maximum design rate for the reserve. Without these actions, DOE estimates that only about 800,000 barrels can be drawn down per day.

DOE plans to permanently install heat exchangers to dissipate the excess heat as the reserve is drawn down. DOE plans to complete this work by April 1995, at a cost of about $19 million. To reduce the gas content of the oil to acceptable levels, DOE will bring about 144 million barrels to the surface, degas it, and then return and blend it with other oil in the caverns. DOE plans to complete this work by November 1997 at a cost of about $45 million.

Using a DOE model, we estimate that the benefits of correcting the heat and gas problems could be substantial. The net present value of the benefits ranges from about $2.9 billion to $16.7 billion, depending on the extent to which draw-down capability is restricted and the various oil disruption scenarios evaluated. The benefits are substantial because the heat and gas problems significantly impair the SPR's draw-down capability and therefore limit the SPR's ability to dampen oil price increases and their economic impact. Because of the large potential benefits and relatively low total cost of this action—about $64 million—we would assign it a high priority.

The SPR's draw-down rate is also threatened by major problems in the mechanical, civil, and electrical systems that DOE believes will become progressively worse over time. The United States has invested over $3.7 billion (or about $6 billion when adjusted for inflation) in SPR storage sites and related distribution systems. These systems were installed in the late 1970's and early 1980's with a designed life span of 20 years. DOE plans to replace and upgrade the draw-down and distribution systems through its Life Extension Program and at the same time simplify and standardize equipment to reduce future maintenance costs. These changes will also give DOE greater ability to test equipment under maximum usage rates.

Based on DOE's evaluation of SPR system availability without a Life Extension Program, we estimate that the daily draw-down rate could drop to about 3 million barrels per day or about 67 percent of the system's design capability, within 10 years. The most severe drop will occur at the SPR's two largest sites, the Bryan Mound, Texas, and West Hackberry, Louisiana, sites where over 420 million barrels of SPR oil are stored. DOE estimates that the Life Extension Program will take 7 years to complete and cost about $375 million (or about $315 million in present value terms). It will extend the useful life of the reserve to the year 2025.

Our model analysis shows that if the draw-down rate is lessened to about 3 million barrels per day, the net benefits of carrying out the Life Extension Program could be as high as $1.6 billion across the various disruption scenarios in which the reserve would be needed. These results do not include the additional maintenance costs of keeping the present SPR facilities and systems operational if life extension projects are not done. Given the potential extent to which the SPR's capability will be degraded without the Life Extension Program, and the potential net benefits of preserving the large investment in equipment and capability to date, we would also assign this activity a high priority.

Because of budget constraints, DOE is not requesting any funds in fiscal year 1995 to continue to fill the reserve to its current 750 million barrel capacity. DOE estimates that filling the reserve to full capacity would cost a total of about $4.2 billion (or $3.7 billion in present value terms). Also, DOE has informed the Congress that because of extreme demands on the Federal budget, the administration does not foresee that expansion of the reserve to the authorized 1 billion barrels will be possible within a meaningful planning horizon. DOE estimates that expanding and filling the reserve to 1 billion barrels would cost between $10 and $11 billion (or between $6.4 and $7.1 billion in present value terms), depending on the price of oil and which sites are selected for the expansion. Any expansion of the reserve would also have to address the potential for heat and gas buildup in the expanded portion of the reserve as well.

Our model analysis shows that filling the reserve from 600 to its current 750 million barrel capacity could produce net benefits ranging from about $1.5 to $3.3 billion, but generally only under the more severe disruption scenarios, in which large disruptions are more likely and longer lasting. The costs exceed the benefits by as much as $1.3 billion under a milder disruption scenario in which disruptions are shorter. Because of the very high cost of expanding and filling the reserve to 1 billion barrels, our model results show that the costs exceed the expected benefits under all but the most severe disruption scenario. Such costs exceeded the benefits by as much as $2.8 billion. Because of the high cost of purchasing additional oil and expanding reserve capacity, and the relatively fewer disruption scenarios under which a larger reserve would produce benefits, we would assign these options lower relative priority.

In a related issue, some SPR staff believe that cost savings may be possible if the size of the SPR is officially capped at its current size of about 600 million barrels. This cap could enable DOE to consolidate and take out of operation unneeded sites and limit life extension projects to only those sites remaining. We understand that SPR staff are examining this issue but have not yet reached any conclusions.

DOE's cost estimates for increasing the maximum daily drawdown capability from the existing 4.5 to 6 million barrels per day as the reserve is expanded to 1 billion barrels range from $2 million to $196 million depending on which expansion sites DOE selects. DOE has not prepared any cost estimates for achieving the same increase in capability for the existing reserve without an expansion. SPR program officials we spoke with, however, said that such capability could be added, and that if such an addition is required, it would make sense to include it in the Life Extension Program. Any increase in draw-down capability also assumes the heat and gas buildup problem is resolved.

Our model analysis shows that increasing draw-down capability to 6 million barrels per day, either for the current or expanded reserve, produces net benefits under most scenarios only for the expanded reserve. However, we can not fully evaluate the potential advantages of increased draw-down capability because of model constraints that limit the amount of SPR oil that can be released at any given time. For example, the model will not readily allow the user to increase, or "surge" initial draw-down and then lower it if a disruption is likely to last longer than originally anticipated. Such surge capability could offer an advantage in meeting DOE's stated intention of quickly injecting large amounts of oil into disrupted markets to dampen oil price increases. The model does show that if disruptions are relatively short, increasing daily draw-down capability provides more net benefits than increasing the current size of the reserve. The costs of increasing daily draw-down capability are likely to be comparatively lower than large additional oil purchases or expansion of the reserve, and would provide additional flexibility to respond to a wider range of disruption scenarios. As such, we would assign this option as related to the reserve's current size a medium priority.

Mr. Chairman, with respect to IEA, you asked us to assess (1) how IEA's mission has evolved and what its current goals are, (2) what IEA intends to achieve through its recent activities in the nonmember countries and in the environmental area, and (3) how well IEA coordinates its activities with other international organizations. You also asked us to summarize our views on the need for IEA's Emergency Oil-Sharing System.

The IEA, an organization of 23 oil-consuming, industrialized nations, including the United States, was formed in response to the 1973-74 oil embargo, to ensure the collective energy security of its members. Central to IEA's early mission was (1) encouraging member countries to provide for emergency oil stocks, such as the SPR, and (2) creating a system for sharing available oil supplies among members during an oil disruption. In 1994, the United States will contribute about $6 million, or 25 percent, of the IEA's $23 million budget.

According to IEA officials, energy security is now no longer simply a matter of member countries being prepared for a disruption in the supply of oil, which was IEA's primary mission when it was formed. IEA now sees energy security as encompassing global economic development, the environmental impacts of energy production and use, and enhanced relations with nonmember countries. Energy policies can have a significant impact on the world's economies. In addition, environmental policies now have a major effect on world energy production and consumption. Also, the economies and energy markets of IEA's member and nonmember countries have become increasingly interdependent and the demand for energy is expected to continue to rapidly increase in the nonmember countries. According to IEA officials, it is now in its members' best interest to encourage countries outside of IEA to move toward market economies and to influence how these countries address their increased demand for energy.

In response to a broadened definition of energy security, IEA updated its mission by developing new shared goals for energy policy in 1993. The new goals place greater emphasis on diversifying energy sources, rather than on reducing dependence on imported oil. Specifically, the goals encourage (1) diversity, efficiency, and flexibility within the energy sector; (2) the development of more environmentally acceptable energy sources; (3) free and open energy markets with undistorted energy prices; and (4) cooperation among all energy market participants.

IEA is responding to the broadened definition of energy security in part by developing closer ties with the nonmember countries such as those in Central and Eastern Europe. DOE and State Department officials support this new orientation for IEA. IEA's assistance to nonmember countries has been mostly in the form of broad energy policy studies, including reviews of the energy sectors of Poland, Hungary, Romania, the Czech and Slovak Federal Republic, and the Republic of Korea. In addition, IEA sponsors international conferences and workshops on energy-related topics.

IEA is also placing increased emphasis on the environment by encouraging energy decisionmakers to consider the adverse environmental impacts of energy activities, just as in making environmental decisions, they account for their energy consequences. IEA has completed several studies on issues such as auto pollution and climate change, energy efficiency and the environment, and climate change policy initiatives. In addition, IEA is working with the organization for Economic Cooperation and Development to support efforts of the United Nations to address issues related to global climate change policies. For its part, IEA is developing criteria, methodologies, and data requirements to assess (1) the comparability of national policies on greenhouse gas emissions and (2) the effectiveness of the various policies to reduce greenhouse gases.

IEA and its member countries consider the work in nonmember countries and in the environmental arena to be important for energy security reasons. Yet, the work in nonmember countries and in the environment are also the areas most likely to result in a duplication of efforts between the IEA and numerous other international assistance and financial organizations. The World Bank, the European Bank for Reconstruction and Development, various United Nations agencies and economic commissions, and the Asia-Pacific Economic Cooperation forum, for example, all provide energy and environmental assistance—such as policy advice, technical assistance, and financial aid to the nonmember countries. Some of IEA's energy policy assistance is similar to the assistance offered by these other organizations.

IEA officials told us that they coordinate on an ad-hoc basis with international organizations that provide energy and environmental assistance to its nonmember countries. For example, in response to concerns about Soviet-designed nuclear reactors, the World Bank, the European Bank for Reconstruction and Development, and IEA worked cooperatively to conduct a study on alternatives to nuclear power, and their costs, in Eastern Europe and the former Soviet Union.

Officials from some international organizations told us their organizations and IEA have duplicated efforts at times. For example, between 1990 and 1991, both IEA and the World Bank conducted studies of the energy sectors of Poland and the former Czechoslovakia. However, World Bank officials indicated that coordination between the bank and IEA has improved since that time. Also, officials from the State Department and some of the international organizations told us that a duplication of efforts in the nonmember countries may be beneficial as long as it provides for a diversity of views on energy-related issues. IEA officials stated that nonmember countries find its views valuable because IEA is an independent agency that has no financial or commercial interests and provides objective analysis.

Although the mission of IEA is evolving, preparing for future oil supply disruptions remains a central objective of the organization. The Emergency Oil-Sharing System, developed in response to the 1973-74 oil embargo, is a mechanism by which IEA member countries agree to reduce their oil demand, draw down their oil stocks, and share available oil during a severe oil supply disruption. In a 1988 testimony before this subcommittee, we concluded that IEA's Emergency Oil-Sharing System had made a genuine contribution to U.S. energy security as a standby emergency response mechanism.[2]

With the development of, among other things, an oil futures market, and with the deregulation of oil prices, a global marketplace now exists for allocating available oil. Accordingly, we believe that IEA is now less likely to need or use its Emergency Oil-Sharing System. However, State Department officials told us that several other IEA member countries favor retaining the sharing system because they view it as an "insurance policy." These officials also told us that the existence of the sharing system may dampen speculative stock building and hoarding and related price increases during a disruption. In any event, State Department officials told us that IEA's sharing system would not be used without the support of the United States.

We should note that in 1984, IEA developed a more flexible and voluntary approach called Coordinated Emergency Response measures to respond to any disruption that it determines threatens to cause severe economic harm to its members. DOE and State Department officials favor the use of these more flexible, voluntary measures to cope with severe disruptions in the supply of oil, rather than the Emergency Oil-Sharing System. In fact, DOE's Secretary O'Leary has encouraged IEA to continue to review its oil-sharing system in light of the many changes in the world oil market over the past 20 years.

Mr. Chairman, with respect to NPR oil sales, you asked us to examine options for enhancing revenue, including selling some portion of the NPR oil produced in Elk Hills, California, to Gulf Coast and mid-continent oil refiners. We found that it will be difficult for the government to increase revenues by selling NPR oil to these refiners, even though crude oil prices in these regions are generally higher because (1) NPR oil yields a less valuable mix of petroleum products than the comparable crude in these other refining regions, (2) NPR crude oil contains two contaminants—nitrogen and heavy metals—that make it more costly to refine than many other crudes, and (3) the cost of transporting oil from California to the other regions is substantial.

The Congress established the NPR in the early 1900's to ensure fuel supplies for the military. The reserves were largely inactive until 1976, when the Congress changed the NPR from a strategic reserve for the military to a source of oil for commercial purposes. DOE, which also manages this reserve, sells the oil produced to the highest bidders, which are generally West Coast refiners. The SPR now fills the strategic military and commercial reserve function originally envisioned for the NPR.

We did find, however, that DOE could potentially increase the bids and therefore the revenues it receives by addressing several constraints and practices it engages in as a seller of crude oil. For example, replacing the oil price index DOE uses to adjust prices paid over its standard 6-month sales contracts so that they better reflect changing market conditions could result in somewhat higher bids. DOE currently uses an index based on the average of the spot market prices of two crude oils traded in Los Angeles as the basis for bidding and determining actual prices paid for NPR oil. However, spot transactions for the two crude oils that comprise DOE's current index are dwindling.

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[2] Renewal of Authorities for U.S. Participation in the International Energy Program, (GAO/T-NSIAD-88-32, May 17, 1988).

DOE could also ensure that it did not unnecessarily invoke the preference it grants to small refiners for purchasing 25 percent of its oil by first determining whether these refiners lack adequate alternative supplies of crude oil. To promote the economic viability of small refineries and ensure access to NPR oil, the Congress included a provision in the NPR Production Act allowing DOE to give a preference to small refiners in the purchase of up to 25 percent of NPR oil when it and the Secretary of the Interior determine that these refiners do not have adequate alternative supplies and selling crude oil to refiners under the preference serves the public interest.

In addition, DOE could adopt the standard industry billing practice, which requires monthly (rather than weekly) billing. DOE could minimize the risk to the taxpayer from carrying larger accounts receivable by only offering this payment option to creditworthy buyers or, alternatively, offering this option to all buyers and require a larger performance guarantee from buyers that pose a credit risk. Finally DOE could market its oil more aggressively in California, possibly resulting in more and better informed bidders and somewhat higher winning bids for the NPR oil.

This concludes our prepared statement, Mr. Chairman. We would be pleased to respond to any questions you or other members of the subcommittee may have.

Mr. SHARP. Ms. Bleviss, we are happy to hear from you now

## STATEMENT OF DEBORAH L. BLEVISS

Ms. BLEVISS. Thank you, Mr. Chairman. I want to thank you and the subcommittee for inviting me to speak. I am here as President of the International Institute for Energy Conservation, which is a nonprofit organization celebrating its tenth year of existence, whose focus is developing and encouraging energy efficiency in developing countries as a way of addressing both their economic growth needs and also their environmental problems, which are increasingly becoming global problems as well.

What I would like to do is describe a little bit of how we are acting in a coalition to work toward and in bringing forward the COEECT program, which is, relative to all the other programs being discussed, a relatively new program; and second, talk about the unique characteristics of the energy efficiency industry, which require unique responses.

First of all, we have, together with four other groups, formed what is known as the Energy Efficiency Export Council. And the other members of that council are the Alliance to Save Energy, the National Association of Energy Service Companies, the National Association of State Energy Officials, and the Solar Energy Industries Association. And the coalition is working cooperatively with the COEECT officials at DOE to develop a strategy plan of action for the COEECT program.

Early on, we developed some basic principles for implementation of the COEECT program, which are listed on the first page of my testimony, but basically it operates on some basic principles: continuous interaction with the industry, engaging in activities that are highly leveraging; evaluating performance so we can improve our performance downstream; and particularly, building up the resources of the Federal Government so that all the agencies that sit on the COEECT board or on the COEECT panel are themselves increasing their capacity to assist the industry.

Now, with that said, I would like to talk a little bit about the industry, and I have included a couple of graphs at the back of my testimony. I just want to point to the last one, which demonstrates that the energy efficiency industry is quite a successful industry.

It compares the sales basically, their revenues, with the toys and the soap industries, their domestic sales.

They are a successful industry in the domestic market. And I put two provisos on it: One, it is in the domestic market. They do not have much recognition of the potential in the overseas market; and second, they do not have much recognition of themselves as part of an energy efficiency industry. The efficient lighting folks consider themselves part of the lighting industry, et cetera.

However, if you look at it from an energy efficiency point of view, they have the potential of filling a very important market niche, and I refer to the previous slide, which shows what projections are in the emerging markets, the non-OECD markets, from now to the year 2025, which shows some very fantastic levels of expenditure requirements.

Those resources are not there. And for many of these countries, they are going to have to look at energy efficiency as a very important resource. They cannot do that in a fragmented manner, in which they think, well, now I need to buy some lights and now I need to buy some more efficient cars. It has to be a very cohesive approach, and the industry has to be united as well. So a major focus of the COEECT program is to try to unify the industry, at least insofar as their reaching overseas for their export and trade promotions.

The second thing I wanted to note is that it is also important to recognize what the industry needs. And one of the first things we did as we surveyed the industry as to their needs—they really came up with some clear elements. One is, they need to know more about what the markets are out there and how they can operate in those markets. These are unknown markets to them. What are the government rules, both our government and their governments, and how they can find local partners.

Second, they need to know how they get into financing. Most of these folks—in fact, our survey showed that none of them have ever dealt with the multilevel banks which clearly are financing a large fraction of the energy development in these countries. So the COEECT program has really focused on those two areas for the initial areas of development.

Now, what are we doing initially? Well, we are going to have a conference on financing geared towards the industry. Second, we are going to do some preliminary market assessments.

We have picked two countries, one is Chile—which is now negotiating to join Mexico in a NAFTA-type relationship—and Russia, of which we obviously have a lot of assistance going to Russia and of which there is a terrific need for energy efficiency.

And the third part is that we are looking at ways to try to improve the quality of the dealmaking that is made now.

The traditional response, not only by the United States, but certainly by the U.S. Government, has been they trade missions. They are fairly ineffective, particularly in the energy efficiency industry. All these folks come across a wide variety of subsectors. They do not have anything in common. They do not see much in common with one another. They know nothing about the market. They have not decided in many cases whether or not they want to enter the market. And so it is often the cart before the horse. They get there, it is a nice show, and they get some publicity pictures; and then they leave, and that it is the end of it.

The focus that COEECT is seeking to adopt is something we call the dealmaker model, which is really doing your homework before you take people abroad—understanding and doing the market assessment, then really screening the companies beforehand, and doing it by subsector, by subsector.

Let us take lighting companies: If there is a lighting need, screening the companies, identifying the ones that are really serious, identifying their potential partners before you go on the mission, then going on the mission; and probably even more importantly, not letting it end there but continuing a hand-holding process down the line.

We have already had preliminary experience with that, IIC has in Thailand. Thailand has the first developing country demand-side management program in which they are going to invest $190 million over the next 5 years in a wide range of electricity-reducing energy efficiency technologies, lighting being one.

We applied this approach in the electronic ballast area. There are no electronic ballast manufacturers now in Thailand, and it is clearly going to be a component of their program.

As a result of this dealmaker approach, five deals have already been made with American companies worth about $20 million. And probably more important, it has whetted the appetite of the Thai Government to say, let us do it more than just in ballast. And not only just the Thai Government, but the governments around them are saying, hey, we would like to have something like this as well.

So I would leave you with the idea that this is an early program. We are quite excited about it. We think it will leverage a whole lot, but it has to be successful. It has to be built around a recognition that this is in many ways a unique, a very unique industry, one with a lot of potential but one in which unless we recognize their unique characteristics, we are not going to be able to help them very much.

Thank you.

Mr. SHARP. Thank you very much, Ms. Bleviss.

[The prepared statement and charts of Ms. Bleviss follow:]

# STATEMENT OF DEBORAH L. BLEVISS, PRESIDENT, INTERNATIONAL INSTITUTE FOR ENERGY CONSERVATION

## INTRODUCTION

Thank you, Chairman Sharp and Members of the Subcommittee, for the opportunity to address the reauthorization of the Committee on Energy Efficiency Commerce and Trade (COEECT). I am Deborah Bleviss, President of the International Institute for Energy Conservation (IIEC), a non-profit organization that for 10 years has been promoting energy efficiency in industrializing countries as a sustainable development strategy. I speak today as a representative of the Energy Efficiency Export Council, an organization recently founded by IIEC, the Alliance to Save Energy, the National Association of Energy Service Companies, the National Association of State Energy Officials, and the Solar Energy Industries Association. Our five organizations have a wealth of experience promoting energy efficiency in the U.S. and abroad. Together, we are able to reach the wide range of companies that comprise the U.S. energy efficiency industry.

### *Operating Principles of COEECT*

The Energy Efficiency Export Council is working with the Department of Energy and the industry to develop and implement COEECT's strategic plan for promoting export of U.S. energy efficiency technologies. Early on, we established a set of operating principles to which COEECT adheres in planning all of its activities:

1. Wherever possible, COEECT *leverages investment and activities* that are already underway by such organizations as the U.S. Agency for International Development (USAID), and the Global Environment Facility (GEF); industry associations; and state export promotion programs.
2. COEECT solicits *input from the U.S. energy efficiency industry* at every step of its project planning processes. This input is fundamental to determining and maintaining the direction of COEECT activities.
3. COEECT *continuously evaluates performance and progress* in order to adjust and improve its ability to promote energy efficiency commerce and trade, and to respond rapidly to new opportunities.
4. COEECT consciously *builds upon the resources and programs of its task force members*, including U.S. AID, Commerce, EPA, and the export financing agencies (Eximbank, OPIC, TDA), as well as on the experience and expertise of CORECT.

I would like to focus the remainder of my testimony on two critical points:

### *1. Unifying the Energy Efficiency Industry*

First, I would like to address the importance of COEECT's role as a focal point for the diverse but economically powerful U.S. energy efficiency industry. The global market for energy efficiency products and services is currently estimated at between $60 and $90 billion annually. This represents an extraordinary opportunity for U.S. companies, which are world leaders technologically, having grown and matured in response to strong domestic market demand over the past twenty years. Government can and should be of considerable help to the industry in realizing its potential to seize emerging global opportunities.

### 2. *Unique Approach to Trade Promotion*

Second, I'll describe how the unique, highly focused approach to trade promotion that we are employing in the COEECT program will result in export, joint venture and technology cooperation deals for U.S. companies, creating U.S. jobs at relatively low cost to the government.

### I. INDUSTRY UNIFICATION AND MOBILIZATION

COEECT provides a focus on energy efficiency for U.S. government agencies involved in energy, environment, international trade and/or promotion of U.S. exports. COEECT also has a unique opportunity to be a unifying force for the efficiency industry, which consists of companies from many different sectors, including manufacturers of lighting, windows, motors, air conditioning and heating equipment, energy service companies and consulting engineering firms, among others.

### A. *A Unified Response to the Global Opportunity*

The World Bank estimates that more than $1 trillion will be required over the next decade to meet the skyrocketing electricity demands alone of developing and transitional countries (additional investment is needed for other energy sectors). These countries cannot afford investment of this scale, nor will the international lending agencies on which they often depend for power sector development be able to reach this level of expenditure. Developing countries must identify less expensive ways to provide energy services to their growing economies. Energy efficiency can provide an alternative energy resource at lower cost than new supply. (Please see Attachment A.)

Effectively delivering this alternative energy resource, however, requires a unified, packaged approach. The U.S. energy efficiency industry can compete in the trillion dollar annual global energy market, but it will only succeed on a large scale by exploiting the synergistic potential of its products and services. Energy efficiency measures are most cost-effective and enduring when they are integrated, with improved windows enabling use of optimized lighting systems, which in turn allows smaller scale space conditioning equipment, and so on. Just as all the systems in an individual building are inter-related, so are the various suppliers of energy efficiency products and services.

Yet, these diverse companies have not traditionally seen themselves as united by the common characteristic of providing an alternative energy resource. As a result, there has been little recognition by the U.S. government of the industry's economic and export potential. Even though the annual domestic market for energy efficiency products and services is worth approximately $18 billion, this industry does not receive dedicated attention or support from the Department of Commerce. Other industries such as soap and toys, for example, which are nine and two times smaller respectively, do receive such attention. (Please see attachment B.)

To date, U.S. energy efficiency companies have focused largely on the healthy domestic market, which has been driven by utility demand side management (DSM) programs and the adoption of fairly rigorous efficiency codes and standards in the building sector across the country. While renewable energy companies have made significant progress in entering developing country markets, the U.S. energy efficiency industry has enjoyed steady demand for its products domestically and has therefore not seen an urgent imperative to venture overseas.

For some industry sub-sectors, however, these emerging markets may represent the only significant growth option. One example is the U.S. refrigerator industry, which has competed in a flat, replacement-only domestic market for 20 years, while demand for this product in some developing countries is growing at 14% or more annually. In India, where the middle class alone represents 200 million consumers, the refrigerator market will reach the size of the U.S. market in the next decade, and will be **double the U.S. market in 15 years**. In short, U.S.

energy efficiency companies can continue to focus only on the domestic market and do well; or they can join forces to seize the emerging overseas market opportunity and experience real growth that translates into economic growth and jobs in the U.S. economy.

### *B. COEECT Activities in Support of Industry Unity*

COEECT, with the assistance of the Energy Efficiency Export Council, has initiated action to unify U.S. energy efficiency companies. To date, COEECT activities in this area include:

- surveying energy efficiency companies on their interest in export and needs for assistance;
- providing industry input in the formation of the COEECT strategic plan;
- planning a workshop that will bring together various subsectors of the energy efficiency industry to identify specific, near-term market opportunities and develop strategies for working collaboratively to seize them; and
- planning COEECT's market and technology specific initiatives as dictated by the industry.

## II. AN EFFICIENT AND EFFECTIVE APPROACH TO TRADE PROMOTION

The U.S. Government recognizes the economic benefit of capitalizing on export opportunities for environmentally-superior products and technologies, and has developed a wide variety of trade promotion activities. However, current federal trade promotion efforts in emerging international markets are relatively costly activities that have proven to be limited in their effectiveness at promoting U.S. trade.[1] Our recent survey of energy efficiency companies indicates that U.S. business views most federal government activities in these areas as either wasteful, or only marginally useful.[2]

### *A. Traditional Methods of Trade Promotion*

Consider as an example one of the most widely-used government mechanisms employed to spur trade activity: the trade mission. A trade mission often groups a variety of companies representing industry sectors that are completely unrelated. The companies' participation in the mission is normally fully sponsored by the government; thus the companies themselves have little invested in the outcome of the mission. In addition, trade missions are often conducted prematurely, well before the companies are provided the information they need to make a decision about investing in the target market.

The missions themselves provide only a cursory introduction to the foreign market, providing a "least common denominator" of data to cover the wide-ranging interests of typical participant groups. Little of the industry-specific information or company-specific introductions a firm requires in order to establish a foothold on foreign soil can be provided under the usual trade mission scenario. Further, the organization conducting the trade mission rarely budgets or plans for the extensive follow-up (or "hand-holding") activities necessary to bring joint venture partners together once the initial market introductions are made.

### *B. The Dealmaker Approach*

The COEECT program employs an enhanced alternative to the scenario just described. The approach was developed based on IIEC's experience with fostering development of the market for energy efficient lighting technologies in Thailand. Recognizing a need to go beyond the traditional trade mission to stretch trade promotion dollars and foster real business deals, we developed a highly effective means to stimulate trade for environmental technologies, which we refer to as the Dealmaker.

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[1] Meeting on developing effective joint ventures in Asian region for environmental technologies, Chaired by Lewis Reade, sponsored by U.S. Asian Environmental Partnership, Courtyard Marriott, Rosslyn, VA., 7/9/93.

[2] *U.S. Energy Efficiency Industry Recommendations on Federal Export Promotion*, Research on energy efficiency industry opinions conducted by IIEC and the Alliance to Save Energy; Fall 1993, on behalf of the Energy Efficiency Export Council.

The Dealmaker was conceived from the perspective of the companies it is designed to assist. Recognizing the *modus operandi* of the average U.S. energy efficiency company, the Dealmaker responds to a range of conditions recurrent throughout the industry.

In general, these companies:
- are focused on the domestic market;
- have little knowledge of emerging foreign market opportunities (such as those created by recent policy initiatives in some developing countries, including utility demand side management);
- have limited resources to explore new markets under the demands of their daily domestic operations;
- have little understanding of the conditions of doing business in specific foreign markets;
- do not know how to go about finding foreign partners (including product distributors and joint venture partners) essential to doing business in new markets.

The Dealmaker is a multi-step process that streamlines trade assistance, providing companies the information they need to commit to a market. It is a matchmaking vehicle to bring U.S. companies together with well-matched partners, and it is an in-country support mechanism that helps ensure deal closure. The steps are as follows:

1. Conduct a market assessment to identify emerging opportunities for a specific industry sector.
2. Identify foreign partners with an interest in U.S. technology.
3. Hold briefings in the U.S. for U.S. companies, providing an efficient source of information about the target market, including how to do business, the market opportunity, trade constraints, and a profile of the partners.
4. Participating companies express their interest, committing themselves to the next step, contacting foreign partners, and investing in a mission to meet with the partners and negotiate.
5. Provide support for the dealmaking process, including in-country introductions and technical support, brokering partnerships and following the process to the point of dealmaking.

The Dealmaker process is designed to leverage and increase the momentum of investment in energy efficiency in developing country markets. Successful deals have multiplier effects both regionally and across sectors within an economy. Export and joint venture arrangements between U.S. companies and firms in one country spur interest in energy efficiency in neighboring countries, opening doors to regional markets. Simultaneously, acceptance and successful use of a high-efficiency lighting technology, for example, increases interest in other high-efficiency technologies.

### *C. Thailand Example*

IIEC originally developed the Dealmaker as part of an effort to establish private sector capacity in Thailand to deliver efficient lighting products demanded by the Thai electric utility's $189 million DSM program. IIEC's $30,000 trade promotion effort leveraged the existing interest of the Thai Board of Investment (BoI) in promoting partnerships with U.S. companies. In this case, the Dealmaker resulted in five deals of various types between U.S. and Thai lighting products manufacturers, worth an estimated $20 million. None of the U.S. companies had had contact with their Thai partners before the initiative, and few of the participating companies were aware of the Thai market, or how to approach it, before the IIEC initiative.

In the particular case of the Thai lighting industry project, IIEC estimates that at least $200,000 would have been required to sponsor a trade mission involving the 24 U.S. companies that participated in the effort. The results of such an effort are of course unclear, but a traditional trade mission or a less complete or less focused trade initiative, is unlikely to have produced as many finalized deals within a year as resulted from the Dealmaker.

This success inspired further collaboration between IIEC and the Thai BoI in late 1993 promoting joint ventures for the energy services industry, including performance contracting and cogeneration companies. As a result, several U.S. ESCOs are negotiating joint ventures with Thai firms. This activity in Thailand has led to heightened interest in energy efficiency from the governments of Indonesia, Malaysia and the Philippines.

Our experience indicates that high-cost, subsidized trade missions are not necessary to lure U.S. companies to foreign markets. Companies will respond to specific information about doing business in emerging markets when it is provided in a low cost, efficiently administered briefing process. Further, with the relevant information in hand, they will move quickly to make deals with appropriate partners, if provided with technical support in the match-making process.

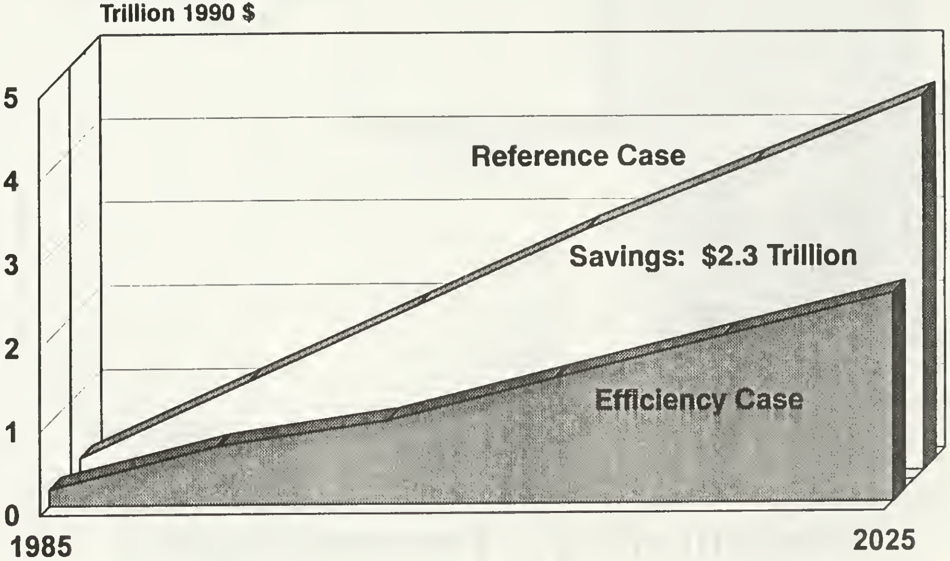
### *D. COEECT 1994 Plans*

The EEEC member organizations, drawing on their extensive experience working with the industry and working in foreign markets, have embraced the Dealmaker approach in implementing the COEECT strategic plan. This year, COEECT will apply the focused trade promotion approach that I've described to emerging markets in Chile and Russia. In Chile we will focus on the heavily energy-intensive industrial sector to identify opportunities for U.S. manufacturers of high-efficiency motors, industrial process equipment and controls. In Russia, COEECT is helping U.S. energy service companies to expand the performance contracting concept that has been so successful in the U.S., and integrating our trade promotion efforts with U.S. AID's Sustainable Cities program.

One of the basic operating principals of COEECT is to support complementary trade promotion activities. To reflect this, COEECT is also designed to leverage the work of the Trade Promotion Coordinating Committee led by the Department of Commerce. We expect significant business activity for U.S. companies to result from COEECT's 1994 program, demonstrating the exemplary cost-effectiveness of U.S. Government investment in this program.

Attachment A

## Developing and Eastern European Nations Capital Demands for Energy

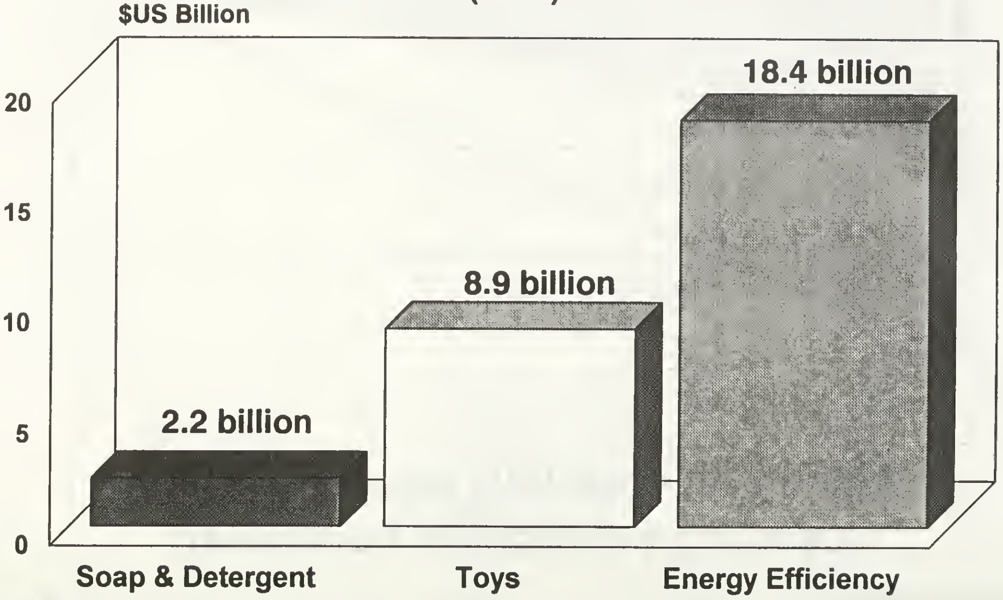


Levine et al, Energy Efficiency, Developing Nations and Eastern Europe, Report to the U.S. Working Group on Global Energy Efficiency, June 1991.

Attachment B

# Comparison of U.S. Industries

(1991)



IIEC Seizing the Moment: Global Opportunities for the U.S. Energy Efficiency Industry

Mr. SHARP. Mr. Sklar, we are happy to have you back with us

## STATEMENT OF SCOTT SKLAR

Mr. SKLAR. Thank you, Mr. Chairman. The Solar Industries Association is a trade association of the solar thermal and photovoltaic industries. We are a founding member of both the Consortium of the Renewable Energy Industry, the Export Council for Renewable Energy, and the Energy Efficiency Export Council that Debbie Bleviss mentioned. We emphatically endorse reauthorization of CORECT and COEECT.

I am here to talk about, as Executive Vice President of ECRE, specifically endorsing the reauthorization of CORECT.

First, I want to thank this subcommittee for working with our industry as the first attempt on interagency cooperation on exports. CORECT has been the most successful program we have seen on interagency cooperation.

I would like to point out that 2 billion people in this world do not have access to electricity, 2 billion people. Right now 175,000 villages are being electrified with micro hydro, wind and solar technologies, and the United States holds the competitive edge. It is a multibillion dollar market out there, and if you look at most of the emerging democracies of the world, whether it be South Africa or the countries in Central America, whether it be the big countries that deal or have impact on global warming in India or China or Brazil, it is these countries whose majority of populations do not have electricity, and we can fill it.

CORECT, a very small funded program, $2 million a year, has done some outstanding things. But I want to lay out first that the U.S. industry exports 50 percent of our exports overseas. Photovoltaics, for instance, at 70 percent. We have seven new automated manufacturing plants either being built or on the cusp of being built just to satisfy those international markets. Those are 400 people per manufacturing plant, plus ancillary jobs. This means jobs in the United States; let us not forget it.

When CORECT was authorized, these agencies did not want to work together. They did not want to be told by Congress they ought to work together. They did not want to deal with renewable energy, and it was not a warm fuzzy experience. Now, after 7 or 8 years, these agencies have been working together and they have been working collaboratively with our industry.

What has happened? There is interplay between the public and private sectors. We have established a unified application form so the U.S. industry, composed primarily of small business, can use one form to apply to all these exports programs, which are confusing. We found the big multilateral banks that want to finance all this energy stuff, that our stuff was too small. So we developed a financing office called Finesse at the World Bank, starting with Asia, a big market, to bundle our little projects together so that it has the attributes of the big projects they are used to funding.

We established an intermediary organization to do 50-50 cost share with U.S. industry to start projects and to provide experts to these multilateral banks so they can make intelligent decisions on funding. The Rockefeller Foundation, AID, EPCA and Department of Energy put money into it, and for the last 3 years we have been getting projects, not paper; and that is what I want to emphasize.

As a part of the U.N. Conference on Environmental Development, UNCED, we had two northeastern states in Brazil agree to put in 2,500 photovoltaic systems. It has leveraged a $500 million market for us that we are only beginning to tap.

The Finesse program at the Asian operations office has leveraged an Indonesia loan, a $600 million market for us. The global environmental facilities of the World Bank, as a result of all this activity, has put in a $12 million renewable energy initiative in India, which is leveraging another $50 million worth of activity.

The bottom line is, a small, focused action by using public policy has gotten hundreds of millions of dollars worth of activities.

Now, the problem is, our international competitors are not sitting around waiting for the United States to beat them in the market. They still are subsidizing financing. They are using their AID programs to do giveaways, so they get their industry in the market. Two things our government does not allow us to do as ways to build market share.

So we have got to use market identification, training, unique kinds of market promotion conferences, trade shows, trade missions, and new techniques in financing to compete or we will lose these multibillion dollar markets. And that is why CORECT needs to be reauthorized.

My promise to you, though, is that if CORECT is reauthorized and we are able to drive some other new initiatives with the administration on renewable energy, replicable projects, a big rural electrification program, we can really drive the United States. So you will see many more manufacturing plants being built in the United States, and that is going to be where the rubber hits the road.

So I want to thank the committee. We think CORECT has been the model, and we appreciate the support of this subcommittee in building this program.

Thank you.

Mr. SHARP. Well, thank you very much, Mr. Sklar; we appreciate your testimony.

[The prepared statement of Mr. Sklar follows:]

### STATEMENT OF SCOTT SKLAR, EXECUTIVE VICE PRESIDENT, U.S. EXPORT COUNCIL FOR RENEWABLE ENERGY

The U.S. Export Council for Renewable Energy (US/ECRE) is the trade consortium of the U.S. renewable energy trade associations founded in 1984 at a time when the domestic markets were falling and the international markets rising. U.S./ECRE promoted the idea of a U.S. Government interagency coordinating committee on renewable energy exports which was eventually signed into law (Public Law 98-370).

The Committee on Renewable Energy Commerce and Trade (CORECT) is composed of 14 Federal agencies and entities involved in all aspects of export and development. CORECT continues to prove itself as one of the best mechanisms for government and industry cooperation in advancing U.S. technologies from the laboratory to the highly competitive international marketplace. CORECT has been a model on how government and industry can work together to expand exports.

CORECT and US/ECRE have created several model programs, including:

—a unified application form for U.S. firms to access export financing from the Agency for International Development, Export-Import Bank (Eximbank) of the United States Overseas Private Investment Corporation, and the Trade Development Administration;

—multilateral bank assistance programs to bundle renewable energy financing via the Financing of Energy Services for Small Scale Energy (FINESSE) program in the Asian operations office of The World Bank. Multilateral development banks have been a key source of financing in the energy sector of developing countries, contributing over 25 percent of their funds primarily for conventional, environmentally damaging energy options. As a result of FINESSE, the first World Bank renewable energy unit has been established in Asia operations, and based upon the success of FINESSE The World Bank is expanding—albeit slowly—its activities in other regions of the world. The Inter-American Development Bank is also setting up a LAC-FINESSE operation;

—public/private partnerships for project identification and prefeasibility support on a 50/50 cost-share with private industry—the International Fund for Renewable Energy and Efficiency (IFREE). IFREE, funded by The Rockefeller Foundation, AID, DOE, and EPCA typifies the kind of early project assistance that builds a long term and sustainable presence in global markets. Prior to IFREE, industry faced even greater stumbling blocks for bankable projects;

—regional emphasis in Latin America, South Asia, and the southern cone of Africa—the Renewable Energy for African Development (REFAD) program has facilitated investments in renewable energy technologies by governments in the southern cone of Africa (South African Development Community) which draws heavily from the U.S. private sector;

—joint venture project initiative in Latin America and the Caribbean (LAC). This pilot program, known as America's 21st Century (A-21) seeks to advance the deployment of replicable renewable energy projects throughout the Western Hemisphere, with an emphasis on U.S. partnerships.

CORECT activities have been instrumental in terms of educating potential customers about the costs, benefits and applications of these technologies; conducting market development activities such as trade missions, technical assistance and training which ready the marketplace for the technologies and help to poise U.S. industry as potential partners; and providing project support and follow-up that helps to ensure the development of projects that meet international standards and secure needed funds for implementation. Efforts by CORECT and US/ECRE have helped to raise the awareness of RE/EE technologies, break down barriers to the technologies, and facilitate sustainable project efforts. The key now that the door has been unlocked to renewables is to lay the pathway to ensure that U.S. companies are significant players in the international marketplace.

CORECT has effectively marshalled programs which have strong accomplishments (listed by region):

Latin America.—Nearly half of U.S. renewable energy exports were in this region in 1993, and projections indicate that the Mexican market is the largest for U.S. renewable energy technologies.

A $1.6 million cost-shared photovoltaic program in two Northeast states in Brazil has opened the door to a $500 million potential market. Plans are underway to expand this program to other renewable energy technologies and at least five other Brazilian states.

Asia.—FINESSE has yielded over $600 million in potential renewable energy projects in just three countries—India, Indonesia, and Sri Lanka. The first standalone renewable energy project is in place in India, with the others going for World Bank board approval in the 1995/96 timeframe.

The Global Environmental Facility of the World Bank, with collaboration from industry, has developed a $12 million renewable energy initiative in India that will be used to leverage over $70 million in local capital for in-country renewable energy project development activities. This is the first time that GEF funds have been used to leverage host country funding sources.

A national program has been established in Thailand to utilize its agricultural wastes to build its domestic electricity production.

Multi-million dollar Eximbank loans have been granted for geothermal projects in the Philippines and Central America.

Africa.—Revolving fund credit programs for renewables in household and small industry applications are underway in three countries: Botswana, Lesotho, and Malawi. Renewable energy for housing is also being considered as an integral component of development plans in South Africa.

Eastern Europe/NIS.—Two U.S. windfarm developers have signed project agreements in the Ukraine for the development of windfarms totalling 1,000 MW.

Clearly, progress is underway, the marketplace is opening up, and U.S. firms are benefitting. For example:

—photovolaic exports have topped 65 percent in 1993, driving the building of several new automated manufacturing facilities;

—solar water heating sales have doubled in the Caribbean Basin, South Korea and the Pacific; and

—wind energy projects are underway in Mexico, Costa Rica, Indonesia, and the Ukraine.

Our international competitors have a rigorous set of programs to ensure they control the potential multi-billion dollar markets of the next decade in renewable energy. They have clearly demonstrated their intention to continue with subsidized financing, intensive technology training, utilization of the development programs to "salt" emerging markets, and frankly even mass giveaways of technology to ensure market dominance.

The United States, burdened by limitations on a realistic financing program for emerging industries, especially small businesses, has to respond with new and more innovative ways to build markets and to show a long term commitment.

The Energy Policy Act of 1992 reauthorized CORECT and a sister interagency effort for energy efficiency, the Committee on Energy Efficiency Commerce and Trade (COEECT). Here again, trade associations and State and public interest organizations established a consortium to promote exports. CORECT and COEECT were reauthorized through fiscal year 1995.

These Federal interagency efforts have proved themselves to be very successful, and should be reauthorized at least through 1999 for such sums as necessary.

In addition, U.S/ECRE suggests that several initiatives be endorsed in the reauthorization to add emphasis and momentum to the very good work already established. The suggestions are:

—establish a Global Rural Electrification Program, which would direct existing funds from AID, Eximbank, OPIC, TDA and even DOE and USDA towards sustainable renewable energy rural electrification programs;

—establish set-aside funds within the multi-lateral banks for energy, pollution prevention, healthcare and infrastructure programs which would allow renewable energy, energy efficiency and environmental technologies to be integrated formally in loan portfolios;

—establish an aggressive renewable energy technical assistance program utilizing the best of U.S. training, technical assistance, computer multimedia tools and information transfer capabilities to ensure the United States lead in the global marketplace; and

—maintain $20 million for replicable renewable energy projects as directed by Congress via AID.

CORECT has shown that the Federal Government can focus in detail on assisting U.S.-based emerging industries in enhancing global marketshare. The CORECT program has created new models in project financing, interagency cooperation, and project development. New initiatives will help drive the program further which will show how the United States can assist other industry sectors.

The Committee on Renewable Energy Commerce and Trade has proven itself a winner. U.S./ECRE and its member trade associations in the bioenergy, geothermal, hydropower, photovoltaic, solar thermal, wind and energy efficiency industries strongly support this reauthorization.

Mr. SHARP. Now, I am delighted to welcome a fellow Hoosier back to testify, Ms. Stewart, on behalf of the National Association of State Energy Officials

## STATEMENT OF AMY STEWART

Ms. STEWART. Thank you, Mr. Chairman, members of the subcommittee. It is a pleasure to be before this committee again.

I am testifying today on behalf of the National Association of State Energy Officials, which is an organization of the energy offices in over 50 States, Territories and the District of Columbia.

NASEO strongly supports reauthorization of the Energy Policy and Conservation Act, including the State Energy Conservation Program, the Institutional Conservation Program, and the Strategic Petroleum Reserve. We also support reauthorization of the Weatherization Assistance Program, the Committee on Renewable Energy Commerce and Trade and the Committee on Energy Efficiency Commerce and Trade.

But today I will focus my remarks on the State Energy Conservation Program, or the SECP, and the Institutional Conservation Program, or the ICP, which are the two programs within EPCA that most correctly involve State energy offices.

Mr. Chairman, in 1990, you served as the chief sponsor of, and this subcommittee strongly supported, the reauthorization of these programs in the State Energy Efficiency Programs Improvement Act, Public Law 101-440. The hallmark of that legislation and of the energy programs operated by the States is the fostering of innovative, diverse and practical approaches to our Nation's energy challenges.

The State Energy Conservation Program, or the SECP, specifically is the backbone of State energy programs. It provides a critical tool for leveraging significant public and private resources to allow States to address both State and Federal energy policy issues. And then in the 1990 statutory change, the States' ability was strengthened to flexibly address local and regional needs as well.

Under the SECP, States have implemented projects affecting all sectors of the economy. In Indiana, for example, we have promoted and made progress in the use of alternative motor fuels, we have promoted vehicle fuel efficiency, and we have been involved in biomass resource development, industrial energy efficiency, and the list goes on and on.

In 1992, we were the first States in the Nation, as you know, to adopt the 1992 Council of American Building Officials model energy code. Today we have a home energy rating system, an energy efficient mortgage program, which has been funded primarily by the States' electric and natural gas utilities and supported and promoted by those private sector companies. But that program could not have been developed without the resources and support of the State Energy Conservation Program. Every State has its own unique and successful examples, but the strength of these successes comes from SECP usefulness in leveraging non-Federal dollars.

A recent DOE survey, which I would like to submit, indicates that for every Federal SECP dollar invested by States in programs and projects across this country, as much as $17 to $25 of non-Federal funds were invested as well. This small Federal investment gives States the tools to attract the investment of enormous non-Federal resources, both public—local and State government resources—and private resources in the kinds of energy initiatives we all know are so important.

SECP, of course, is also key to the implementation of the Energy Policy Act of 1992. The States asked to implement a variety of new programs under EPAC, and we have been working—NASEO has been working closely with the administration to integrate those programs with the Climate Change Action Plan and other activities under SECP.

Now I will move to the Institutional Conservation Plan, or ICP. The ICP is a fairly straightforward program. It provides Federal matching grants to schools and hospitals to improve the energy efficiency of their buildings. Nationally, tens of thousands of buildings have been upgraded through this program, benefiting directly students, patients and taxpayers. Very simply, in schools and hospitals, when energy costs are reduced, more money is available for the primary purposes of education and health care. With government resources limited nationally, this is one program which has reached into every single congressional district.

In Indiana, to give you another illustrative example, we have provided 1,027 grants to schools and 177 grants to hospitals through the Institutional Conservation Program. Total project budgets have been over $23 million, which has included a Federal contribution of only $9 million. But most importantly, I think, the estimated energy cost savings in buildings total almost $15 million per year.

In conclusion, Mr. Chairman, Federal appropriations for both the SECP and the ICP have dropped dramatically during the past decade, but at the same time, overcharge revenues to the States have declined as well. So the importance of these programs, the SECP and the ICP, and their ability to leverage non-Federal funds is greater than ever.

We urge your continued support for and reauthorization of these important activities, as well as other provisions of EPCA dealing with the Strategic Petroleum Reserve, CORECT, COEECT, and the Weatherization Assistance Program.

Thank you.

Mr. SHARP. Thank you very much, Ms. Stewart.

[The prepared statement of Ms. Stewart follows:]

STATEMENT OF AMY STEWARD, DIRECTOR, ENERGY POLICY DIVISION, INDIANA DEPARTMENT OF COMMERCE, ON BEHALF OF THE NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS

Mr. Chairman, members of the subcommittee, I am pleased to have the opportunity to appear before you to testify on the reauthorization of the Energy Policy and Conservation Act ("EPCA"). The National Association of State Energy Officials ("NASEO") strongly supports reauthorization of EPCA, including the State Energy Conservation Program ("SECP"), the Institutional Conservation Program ("ICP" or the "Schools and Hospitals Program") and the Strategic Petroleum Reserve ("SPR"). We understand the committee will also will be considering, and NASEO supports, the reauthorization of the Weatherization Assistance Program, the Committee on Renewable Energy Commerce and Trade ("CORECT") and the Committee on Energy Efficiency Commerce and Trade ("COEECT").

I am Director of the Energy Policy Division of the Indiana Department of Commerce and I serve as Secretary of NASEO, an organization composed of energy offices in over 50 States, territories and the District of Columbia. Today, I am testifying on behalf of NASEO.

The primary purpose of my testimony is to discuss the important role of SECP and ICP. Mr. Chairman, in 1990 you served as the chief sponsor and this subcommittee strongly supported the reauthorization of these critical programs in the State Energy Efficiency Programs Improvement Act (Public Law 101-440). The hallmark of that legislation, and of the State energy programs we operate, is the fostering of innovative, flexible and diverse solutions to the energy challenges our country faces.

SECP was created in the 1970's primarily as an energy planning tool to promote State/Federal cooperation and to permit flexible responses to be devised to the energy crises of that decade. As the program changed during the 1980's, it became the backbone for State energy programs and provided an important tool for leveraging other public and private resources to assist States in addressing both State and Federal energy policy issues. Under the present structure, enhanced through the 1990 statutory change, SECP encourages programs which meet local and regional needs.

Under SECP, States have implemented projects in all sectors of the economy, including: (1) energy and economic development programs, especially in the industrial sector; (2) building code upgrades; (3) lighting projects; (4) promotion of mass transit, van pools, telecommuting; (5) energy efficient government procurement; (6) energy related public education; (7) energy efficient driver training; (8) performance contracting; (9) energy audit programs; (10) promotion of Integrated Resource Planning; (11) promotion of alternative fuels and alternative infrastructure programs; (12) agricultural energy efficiency programs; (13) promotion of renewable energy projects; (14) energy emergency planning, etc.

In Indiana, for example, one Energy Policy Division employee, whose activities are supported through SECP, has forever changed building practices in the State. In 1992, he led an effort to build consensus on a new residential energy code, and Indiana became he first State in the Nation to adopt the 1992 Council of American Building Officials Model Energy Code. In 1993, he raised money from the State's utilities and worked with the shelter industry to create a Home Energy Rating System and Energy Efficient Mortgage program. The State's largest utility now offers financial incentives to builders who construct homes which meet the program's energy efficiency standard, and last week, in Hobart, Indiana, a new housing development opened featuring energy ratings on every home. In 1994, this same employee is directing his attention toward Indiana's commercial energy code and upgrading State government buildings, and I anticipate similarly dramatic results.

Every State has successful program examples, but the real strength of SECP is its very high leverage. A recent DOE survey indicated that for every Federal dollar invested in SECP, as much as $17—$25 of non-Federal funds were expended to implement program initiatives. This small Federal investment permits us to attract enormous non-Federal resources, including utility and other private sources, and local and State funds.

During the 1980's, the primary source of funds for all types of State energy programs were oil overcharge refunds resulting from settlements of cases involving violations of oil price and allocation controls during the 1970's. These resources, totalling over $4 billion since 1981, have been virtually expended, resulting in a huge decline in funding available for highly effective and heavily demanded State energy programs.

Since this subcommittee provided all additional flexibility to implement programs under SECP in the 1990 reauthorization, all we require is a simple reauthorization of appropriations for at least a 5-year period. The present level of funding is $18.3 million, with the administration requesting $24.84 million in fiscal year 1995. The fiscal year 1993 authorized level was $45 million. We would urge the Congress to provide for language to permit such appropriations as necessary.

SECP is also very important in the implementation of the Energy Policy Act of 1992 ("EPACT"), and its corollary, the administration's Climate Change Action Plan. The States were asked to implement a variety of new programs under EPACT, and we have been working closely with the administration to integrate those programs with the Climate Change Action Plan and other activities under SECP. For example, section 132 of EPACT calls for the expansion of process oriented industrial energy efficiency programs, a very important area for States which are trying to improve the competitiveness of our industries in order to create new jobs or retain existing jobs. This program would function in concert with the successful National Industrial Competitiveness through Energy, Environment and Economics (NICE3) program, which focuses on both energy efficiency and waste minimization in the industrial sector. These programs are coordinated at the State level under the SECP umbrella.

The promotion of building code upgrades, training and enforcement (authorized under EPACT section 101) and the State and local building energy incentive revolving loan fund (authorized under section 141), both are integrated with a broad range of energy programs through SECP.

In the transportation arena, especially in promotion of alternative fuels and infrastructure development, section 409 of EPACT provides for incentives to States to promote use of these vehicles, develop refueling infrastructure, and work with private and public fleet owners to promote a coordinated program. We are working closely with DOE in a number of States to implement the Clean Cities program to expand use of these fuels on a local and regional basis. Again, these programs are integrated by the energy offices through SECP.

ICP is a straightforward program which traditionally has provided Federal matching grants to schools and hospitals to install energy efficiency improvements in these buildings. Nationally, tens of thousands of buildings have been improved through this program, providing tangible benefits to all taxpayers, students and patients receiving medical services. In schools and hospitals, when energy costs are reduced, more funds can go towards the primary purposes of education and health care. With government resources limited nationally, this is one program which has reached every congressional district.

ICP is another area where State energy offices spearheaded the application of innovative approaches to leveraging resources. In programs developed in Iowa and Oregon, and later formally authorized by Congress in 1990, States were permitted to utilize Federal ICP funds for energy audits and program marketing if alternative non-Federal funding sources were made available. In Iowa, the State arranged financing for any school system that wanted improvements by establishing an easy set of "fill-in-the-blank" forms and conducting a competitive solicitation in the financial community to permit financing of projects with a pay-back of 6 years or less. In the Iowa case, Norwest Bank was the successful bidder and currently finances energy improvements throughout the State. The energy efficiency of all schools and public hospitals throughout Iowa will hopefully be upgraded by the year 2000. A similar program operates successfully in Oregon. This program is expanding to other States, and we are working with the Department of Energy to effect a regulatory change which will permit this program to operate in a more flexible, businesslike fashion.

In Indiana, we have provided 1,027 grants to schools and 177 grants to hospitals, with total project budgets of over $23 million, including a Federal contribution of $9 million. The estimated annual energy cost savings in buildings totals almost $15 million.

ICP is presently funded at a level of $29 million in fiscal year 1994, with approximately the same amount proposed by the administration in fiscal year 1995. Additional funds were originally proposed by the President in last year's economic stimulus package, but were not included in any final legislation. The fiscal year 1993 authorized level for this program was $60 million. In 1980, the authorized level was $400 million.

NASEO has long-supported the SPR and a substantial fill-rate, taking into account difficult budget priorities. NASEO supported this subcommittee's proposal during consideration of EPACT to apply a creative financing technique for SPR acquisition. The State energy officials have substantial responsibilities in the event of energy emergencies and were actively involved in coordinating responses to this winter's energy emergency in the Mid-Atlantic States. We have been working closely with DOE to ensure a coordinated response. For example, the States generally have set-aside authority under State law and we have testified previously before this subcommittee on energy emergency issues. We continue to support the SPR and its early release in the event of emergencies. The SPR continues to be our major energy emergency response tool. Mr. Chairman, as you have identified in the past, we must work more closely with our allies in developing a coordinated drawdown scenario so that our SPR does not become the sole World supplier in the event of an emergency. We also continue to support providing an appropriate mechanism to address the special problems of oil-import dependent regions, i.e., regional petroleum reserves.

These programs represent innovative approaches to overseas promotion of trade of renewable energy and energy efficient technologies, services and products. We have worked closely with the renewable energy and energy efficiency industries in promoting these activities. From the State perspective, improving the export markets for new energy technologies creates domestic jobs through sustainable development. We must enhance the coordination of these programs and continue to work closely with industry to identify the special marketing needs for these technologies and programs. NASEO strongly supports reauthorization.

Federal appropriations for both SECP and ICP have dropped dramatically during the past decade, but the importance of these programs and their ability to leverage non-Federal funds has increased. We urge your continued support for these important activities, as well as other provisions of EPCA dealing with SPR, and CORECT, COEECT and the Weatherization Assistance Program.

I am prepared to answer any questions you may have.

Mr. SHARP. Mr. Norman, we are happy to hear from you now.

## STATEMENT OF JAMES H. NORMAN

Mr. NORMAN. Good morning, Mr. Chairman. I appreciate the opportunity to speak to you today regarding the reauthorization of the Weatherization Assistance Program. My name is James Norman, and I am the Director of the Action for a Better Community, which is a community action agency located in northwestern New York State covering Monroe and Ontario Counties, headquartered in Rochester, New York; an agency which has weatherized over 3,500 homes since the program started.

My association, the Weatherization Program, began about 19 years ago when I was employed with a community action program in Michigan as the Division Manager for Community Development, and our first grant was $11,000 and we were very much in the pilot and demonstration phase. And at that time, we did not really have a lot of the advanced technology that we are using today.

We did not have trained crews. I could not say initially we knew very much what we were doing. But over the years, of course, the sophistication of the program has grown and has become a model program.

We have distributed just recently to you a booklet on a study by Oak Ridge National Laboratory, conducted on the program. On page 17 there is some information about the energy savings, and on the even numbered pages, 2 through 20, there are some pictures that will give people a feel of weatherization.

Before I get into more numbers, let me just talk about a couple of stories of how weatherization impacts families.

About 3 years ago there was a single mother with a small child in Rochester—I will call her Mrs. Smith for this purpose—who bought a house for $1 from the City of Rochester, and in what she considered to be a safer, more stable part of the community.

The city advised the woman that it would take about $35,000 to bring the house up to code. This woman worked at a household goods store and for almost 3 years saved every nickel she could get her hands on, including the income tax refunds she received, to try to generate enough money to bring this house up to code.

At the store she worked at she would put different items in the layaway—sinks, plumbing supplies, and so forth—until she could get them out. She finally did qualify for an $8,500 Community Development Block Grant loan, a grant from the city to go with the money that she saved. She accumulated about $10,000 in her own savings over that 3-year period. Still, there was a gap between what she had accumulated and what it would take to make the house livable.

So what she did is, she got her relatives and friends to help her actually rehabilitate the house so that most of the money that she had accumulated could go toward the furnishings. The Weatherization Program was able to come in and put in the heating system, which is something that she still could not afford, and as a result—the window and door repairs and the heating system—this woman was able to realize the dream of homeownership even as a low-income person. So we think that was a valuable contribution in that case.

Another situation is one wherein a family came to us in desperate need. They had had no functioning heating system for several years. Each evening, the husband, the wife and the small children would gather in one room and be using a space heater and even an old cooking stove to provide the heat, and that is the way they lived.

The husband in the family worked as a waiter, and also was going to school, pursuing a degree in business, but he did not make much money, so was able to qualify for this program. The problem, health problem that they were exposed to was the issue of carbon dioxide, which has been shown to cause brain damage among small children in some situations; and also there was the hazard of a fire, perhaps, based on the use of an unsafe space heater.

So we were able to also help this family get a new heating system and apply other retrofit measures which helped to improve the family's health situation as well as their life-style.

The 1989 investments made by weatherization agencies in the homes of low-income people saved the equivalent of 12 million barrels of oil. They would have saved that amount of oil before those improvements wear out in 15 or 20 years, which happens to be exactly the same amount of oil that the Strategic Petroleum Reserve purchased for that same year.

Weatherization has been—the program has been evaluated and tested more than most other DOE conservation initiatives. We find, on page 17 of the report, that we have saved a significant amount of energy in the dwellings that have been addressed. We could save even more if the types of measures that we could get involved in could be expanded. There are things that could be done in regard to cooking stoves, washers, dryers, refrigerators and other energy-using devices to save even more energy.

In comparing how well the Weatherization Program did compared to other conservation efforts, we found that of those that had been evaluated, the Weatherization Program really performed better than all except one utility-sponsored program, because of the fact that the Weatherization Program is putting into effect the latest technologies in terms of evaluating houses and so forth.

The Weatherization Program is called upon increasingly to train private contractors, home builders and utility program managers in our new techniques and tools with the Indiana Weatherization Training Center in Indianapolis being a ground-breaking place for this activity in the country.

In New York, we use a program protocol we call TIPS, Targeted Investment Protocol System. Essentially what it means is that we treat every house very uniquely. We look at the building shell, we look at the energy consumption based on actual fuel bills, and we also look at the heating degree days of the zone the house is in. And taking these factors all together, along with technologies such as the blower door, which looks at the air changers in the house, we come up with a prescription for dwellings that gives us the best cost benefit for the investment that we make.

There are six items we would like for the committee to consider in regard to the reauthorization of the program. First, attached to my formal testimony is a proposed amendment to actually give the Department of Energy Secretary a greater amount of discretion in approving new measures to be used, if those measures can be proven to be effective based on testing of those measures within the program. And that might require that measures be authorized beyond those which are currently specifically stated in the law.

We would also ask the committee to maintain its leadership role in what I guess we would say is rescuing the LIHEAP program, because that program is one that also supplements the Weatherization Program. And, of course, if the funding for LIHEAP is reduced to a certain low level, then that would mean that at the State level the Weatherization agencies would not be able to benefit from a transfer of some of the LIHEAP dollars into the Weatherization Program.

We would also ask the subcommittee to press the Department of Energy to include renewable energy sources within the provisions of the Weatherization Program.

Fourth, we ask the subcommittee to mandate that DOE use the current Weatherization network for all of these energy conservation programs and efficiency initiatives and its EPAC programs, and to consider the network is capable of helping to implement those programs.

Fifth, we ask that the subcommittee help to ensure that the new DOE quality measures include fairness, consumer impacts, health and safety and employment effects when testing a new program.

Finally, we would ask that the subcommittee continue to support the leveraging efforts of the Weatherization Program without giving way to the idea that the utility programs will eventually be of such a magnitude and availability that they will do the job. We think that, working together, we can get the job done, but we still need the Weatherization Program.

Thank you very much.

Mr. SHARP. Thank you very much, Mr. Norman.

[The prepared statement and attachment of Mr. Norman follow:]

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## TESTIMONY OF JAMES H. NORMAN
## SUBCOMMITTEE ON ENERGY AND POWER

## REAUTHORIZATION OF THE WEATHERIZATION ASSISTANCE PROGRAM
May 25, 1994

Mr. Chairman and members of the Subcommittee, I first wish to express my appreciation to you for the opportunity to speak before you today regarding an American success story: The Weatherization Assistance Program (WAP). My name is James Norman, and I am the Executive Director of Action for a Better Community (ABC), Inc., a Community Action Agency based in Rochester, NY, which provides and coordinates a wide range of Human Services Programs (including Weatherization) to the low income citizens of Monroe and Ontario counties in Northwestern New York State. ABC has weatherized 3500 homes. I am also speaking for the National Community Action Foundation which represents the nation's 980 Community Action Agencies the delivery network for the DOE program.

Nineteen years ago, I was the Division Manager of Community Development for a (two-county) Community Action Agency (CAA), headquartered in Pontiac, Michigan, when the Agency received its first federal weatherization grant of $11,000 from the Community Services Administration. Since then, the program has changed to a large-scale, technology intensive efficiency investment program and a key part of the Clinton investment budget.

The 1989 Weatherization investments, made by agencies like mine in the homes of the poor will save the equivalent of 12 million barrels of oil before they wear out in 17 to 20 years. This is exactly the amount of oil purchased for the Strategic Petroleum Reserve that same year. That WAP investment created jobs, health and eased the burdens of the poor each year.

Mr. Chairman, the Weatherization Program has been tested and evaluated more than any other significant DOE conservation initiative. We certainly hope Congress will use the same tests on all the alternatives competing for funding.

We are used to having low-income programs held up under a microscope instead of a magnifying glass; we are used to passing a lot of tests as this program now has; we are completely unaccustomed, however, to getting even a handshake from the government after we prove ourselves. Imagine the shock we feel as Weatherizers are passed from the strong, supportive grip in which you personally and your colleagues on this Committee and the House Appropriations Committee have held this threatened program for twelve embattled years, into a real embrace by this President and his Department of Energy!

We have found our bearings enough to suggest a new look at the meaning of the national evaluation of WAP and some additions to the Department's reauthorization proposals.

First, the evaluation, whose summary is attached, understates the savings of the program. Our crews work on the building shell, the heating system and any cooling appliances or systems. Most states do not allow work on or replacement of cooking stoves, washers, dryers, refrigerators, and so forth. Yet, the Oak Ridge report shows only how much we reduce total residential fuel usage; if one asked how much WAP achieved on the things WAP worked on and tried to change, the numbers show an even more dramatic effect - 30% of electricity used for space conditioning, 22% of fuel oil, and 18% of gas used; that is just a national average! Colder regions save more btu's, because, of course, higher consumption means more btu's available to save. (All our agencies should be allowed to work on the wider range of measures, and then you'll see comparable results in all regions).

This labor-intensive program is one of the most effective job creators in the homebuilding industry. Yet, many of the larger indirect benefits of employing and upgrading the skills of this work force were not counted by Oak Ridge as benefits of the program. Similarly, no benefits were assigned to reduced carbon emissions.

The DOE Weatherization Program's performance in 1989 outstripped the energy savings of all but one private utility low-income conservation program evaluated to date. Now, however, we know that only the DOE program has put new diagnostic technologies that evaluate a residence's needs into widespread utilization. Therefore, Weatherization programs are increasingly called upon to train private contractors, homebuilders and utility program managers in our new techniques and tools, with Indiana's Weatherization Training Center in Indianapolis breaking ground for the nation in this regard.

The WAP is now a mature program, having benefitted from the continuous improvements that have been made from its inception. There is no other program in the public or private sectors that has the track record that the WAP has demonstrated in the area of residential energy conservation.

With the Clinton welcome transformation of the role DOE plays in Weatherization, the program has even improved since that time. Few states used advanced diagnostic tests then; most will this year. Therefore, the New York results of the 1991-92 winter are probably a more accurate evaluation of the potential in most states.

In the state of New York, under the guidance of Gov. Cuomo's Director Rick Gerardi, pioneering changes were made in techniques for evaluation and retrofit. For example, we have an approach to Weatherization that we refer to as the "targeted investment protocol system" (TIPS), which chooses integrated packages of investments based on the cost/benefit.

**Under the TIPS approach to Weatherization, every dwelling unit is treated uniquely. We look not only at the physical condition of qualified dwellings, but also at the energy consumption (based on actual fuel bills) and heating degree days of the zone in which the dwelling exists.**

**Prior to any energy work being done, we perform health and safety tests (to detect the presence of excessive amounts of carbon monoxide and other hazards in the air).**

**New equipment, such as the "Blower Door" is used to measure the level of air infiltration, so that air sealing techniques may be applied, but only to a safe level.**

**Problems with the heating distribution systems are diagnosed and treated.**

**High density cellulose insulation is blown through small holes into the ceiling and the sidewalls when possible, to treat conductive and convective energy loss simultaneously.**

**Heating systems are tuned and/or replaced when required, and energy education is provided that is specific to the energy consumption practices of the building occupants.**

Many state programs are leveraging significant private funding. In New York, low income apartment units get weatherized if building owners make at least a 25% investment in the energy conservation work. In five years New Yorker raised contributions of over $30,000,000 in private landlord investment in the program.

On the average, the New York WAP in 1992 saved each household weatherized $350 on its annual heating bill, or stated another way, we helped New Yorkers who were spending about 18% of their income on bills cut that to 12% of their income for each of the next 15 years. Getting 3% of your whole income back is significant help.

Further, I have always been involved in the employment and training field. In Michigan I directed the state's programs in this network. Weatherization is the epitome of preparation for good jobs at good wages and it trains people in a skill that is readily transferable to the private sector entrepreneurship opportunities and to the needs of a sustainable economy.

In my former home, Michigan, Detroit Edison granted $8,300,000 to community agencies last month. The May 16, 1994 report in Economic Opportunity Report said, "the PSC (Public Service Commission) anticipates that Community Action Agencies will plan a significant role in the programs because they (the programs) must be managed by experienced groups. Further, the project has limited administrative overhead, another hallmark of CAAs."

The human side of the program's impact can't be reflected statistically. I would like to share just two examples of the program's impact on persons served through the WAP of Action for a Better Community (ABC), Inc:

Case Example #1

Three years ago, Mrs. Smith, a working single mother of a then 3 year old boy purchased, for $1, a house in a safer, more stable neighborhood than hers from the city of Rochester. The city estimated that an investment of nearly $35,000 would be required to bring the house into total compliance with the building codes. So, for almost three years Mrs. Smith saved every nickel she could from her wages, savings and income tax refunds to generate $10,000 toward the renovation costs; and she was able to obtain a grant of $8,500 in Community Development Block Grant (CDBG) funds.

Mrs. Smith who worked at a household goods store used the layaway until she could afford to buy light fixtures, tiles, wiring, tools and paint bit by bit, and piece by piece, to install in her new house.

When Mrs. Smith applied to the Weatherization program in April 1993 she still didn't have enough money for the heating system. But she had enlisted the support and sweat of family and friends to provide free labor - instead of the costly services in the original estimate. The dollars she had accumulated could be spent mostly on materials. When ABC made door and window repairs, fixed other air flow problems and installed a new heating system her dream of home ownership was realized.

Case Example #2

A desperate family applied for WAP services. They had not had a working furnace for several years. The husband, wife and 3 year old and an infant grandchild would cuddle together in one room with a dangerous space heater and the old cooking oven going to keep warm at night, because they could not afford a new heating system.

The husband was and is employed as a waiter and going to school to get a business degree, but did not earn very much money. As you know, over a million such families go without heat every winter - and we have seen babies in this situation brain damaged by $CO^2$ poisoning. You know of too many deadly fires when children are using space heaters.

The ABC WAP program was able to install a new heating system and retrofit the energy system to improve this family's health situation and keep them on the path to self-sufficiency.

Mr. Chairman, you have a seasoned WAP network meeting many integrated goals of this program. In the residential sector, where all American families are potential consumers for such services, it has no peer technically, nor in institutional terms; our agencies are run by community boards of neighbors with at least a third, by law, low income people. Our communities hire and fire us; our governors lead us, we can help the public and Congress realize numerous objectives.

Funding remains a critical constraint. In 1988 Community Action Agencies had $500 million from all sources to invest in these energy improvements and we learned new ways of saving energy. We learned that larger investments have higher and longer payback than small investments, and then funding began to drop with LIHEAP cuts and the exhaustion of oil overcharge restitution funds. The President's request for a budget their $280 million by FY 1996 will still leave us with spare capacity and millions of homes in need.

The latest Oak Ridge analysis shows that 2.1 million families had extraordinarily high consumption and also high "burdens", or energy bills as a percent of their income. It will probably take close to $4 billion from all sources just to fix these homes with the highest potential return on investments. And we will certainly be called upon to serve some vulnerable families not in that population.

This program is most effective when combined with funds for housing repair. Weatherization crews walk away from many desperately needy homes because of code problems. In New York, CSBG and state funds help us. If you can marry HUD funds to our crews, we could do much more. It doesn't work in reverse; most housing rehab workers are not trained in energy retrofitting.

We want this Committee to use our skills more broadly and more frequently in energy efficiency programs. To that end, we recommend the following:

1) This bill should deal with the possibility that full implementation of WAP investment decisions based on audit-driven programs will point to higher levels or different measures than would be allowed under the Section 415 provisions legislated in 1986 and amended in 1990. We trust the Secretary to make any needed alterations to meet program goals and hope the Committee will give her broad authority to do so. A proposed amendment is attached to my testimony.

2) The Committee should maintain its leadership role in rescuing the LIHEAP program; and help the rest of the Administration understand as Secretary O'Leary clearly does, the energy burdens on the poor and potential for relieving them our network has developed. LIHEAP programs will probably cut contributions to Weatherization by over $50 million of the originally projected $130 million they would have contributed in FY 1995. Your support of creative initiatives in S.2000 last month is a big help to the program and low income families. Help us get funds appropriated as you have before.

3) The Subcommittee should press the Department to include renewables in Weatherization programs. Our agencies can create markets for solar and wind technology and start training the work force that market will need. The Solar Industry is a welcome and willing partner.

4) The Subcommittee should mandate that DOE's other conservation grant programs and any of its efficiency initiatives and EEPACT implementation programs use the Weatherization subgrantees to deliver the services and labor that has been tested and

shown to be unrivalled. Your encouragement to get Section 112 of EEPACT funded will help us get a stronger voice before state Regulatory Commissions.

5) The Subcommittee should help us ensure that new DOE Quality Measures include fairness, consumer impacts, health and safety and employment effects when testing a program. WAP can pay back $1.07 on every appropriated dollar if all these considerations are omitted - so WAP does not "need" them to get funding. However, without these measures, no program can be successful for long on this planet much less in the political climate of our times.

We support analytic approaches to "green" ideas; we think its a better bet to spend money on weatherization than to require the poor by law to replace their old water heaters with heat pumps. A fair system for addressing possibly regressive policies is important to institutionalize.

6) Finally, the Subcommittee should continue to support leveraging efforts in Weatherization without giving into wishful thinking about replacing government funding with utility DSM funding. 60% of all utility low-income programs are in California. The rest are concentrated in less than a dozen states, including New York, and focus on utility customers and measures.

Again, I would like to thank you for this opportunity, and, I hope that you will support the continuation of this American success story.

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**Pl. 440 Section 415 insert a new section**

**(f) The Secretary may waive or amend the preceding requirements of this section if evaluation of the results and requirements of this program demonstrates that such amendment would materially improve its performance in achieving the goals of this Act and any Climate Action Plan implemented pursuant to treaty agreements of the United States, provided that such amendment is submitted to Congress for review at least 120 days prior to its becoming effective and, further, that the grantees and subgrantees of the program and the private sector partners of the program have been fully consulted and informed regarding such amendment.**

***This section is necessary in order to ensure that the lessons learned during implementation of the new diagnostic technologies and energy efficiency measures mandated pursuant to the 1990 legislation can be incorporated in the program structure if the lessons are that current restrictions are counterproductive to the energy efficiency and targeting goals of the program. It also permits the Secretary to integrate measures and priorities which reduce carbon emissions if these meet the overall program goals but are, in some unforeseen respect, incompatible with current cost or technology limitations.***

***As effective energy evaluation systems become commonplace - the program investments should be determined by the output of these audits and they may or may not fit the constraints established in the 1990 or even the 1986 Act.***

Mr. SHARP. The Chair would now like to recognize my distinguished colleague from California, Mr. Moorhead.

Mr. MOORHEAD. Thank you, Mr. Chairman. I want to welcome the witnesses here today. I have 1 or 2 questions for Mr. Sklar.

How often does ECRE—what is its annual appropriation?

Mr. SKLAR. It has received in the last few years close to $2 million a year, so not an inordinate amount. It meets formally, I believe, twice a year, but works really in subcommittees that meet much more frequently. And the subcommittees involve financing, trade export development, training, and like Congress, most of the work is involved in those committees rather than the full meetings.

The full meetings are used really to report progress and to sort of use the bully pulpit to get agencies to work together.

Mr. MOORHEAD. Are you expecting more money in the future?

Mr. SKLAR. Obviously, in my testimony, I explain the fact that the markets are very robust right now and the opportunities profound, and we are pushing to get some more dollars to meet our international competitors head to head. So yes.

And the program has demonstrated itself successful, so we felt it has a proven track record.

Mr. MOORHEAD. Would you kind of describe for us some of CORECT's activities that have resulted in tangible benefits to the United States or U.S. territories?

Mr. SKLAR. Yes, I think—the four that I think are the most significant are the establishment of this financing office for small-scale technology at the World Bank, which in Indonesia alone has developed a $600 million market for us over the next few years. That would never have happened if we just sat around.

And U.S. industry not only is engaged in Indonesia, but one of our companies in the wind energy technology area is even using the Japanese, their AID program, to soak the rural electrification market. The first time I have ever known a U.S. company to use a Japanese AID program to promote itself.

Obviously, a big country with a big market for us is Asia. The first renewable energy-oriented loan for renewables, $12 million, is in play, but it will develop $50 million worth of activities for us; and the United States holds the competitive lead.

The third one, I believe, is Brazil, where at the UNCED conference, Assistant Secretary Mike Davis, at the time, went with industry out to the northeastern states—Ceara, Pernambuco—in Brazil, and as a result of the utility's willingness to do electrification there, it is looking right now that we are going to have a half-a-billion-dollar market in northeastern Brazil for our technologies.

And, again, it is U.S. industry that holds the technological lead. It is how you use the Federal Government as the facilitator to make action happen, but with industry bearing most of the cost. That is the name of the game here.

Mr. MOORHEAD. How do these activities fit in with the U.S. Climate Change Action Plan?

Mr. SKLAR. I think they are beneficial in that renewable technology and efficiency technology happens to displace sometimes the inefficient technologies or technologies that add greenhouse gases. So it is a match.

But, frankly, these sets of activities came out of crass, hard energy policy and market opportunity; but obviously, they coexist very nicely.

Mr. MOORHEAD. How do the activities of CORECT impact on the global greenhouse gas problem?

Mr. SKLAR. Well, again, we have said, for instance, in the big five countries that might, for instance, go to coal—China, India, Brazil, Mexico, Indonesia—which could have some profound implications if used inefficiently, they also have a profound renewable resource base. So those in the hydro biomass wind, solar thermal business see some immense activity in promoting our technologies. And, frankly, we have a few U.S. coal companies that will be involved in some projects pushing to promote these technologies as an adjunct.

So we see it as a way to leverage our technology as a positive way for pollution prevention.

Mr. MOORHEAD. I have a question, too, for Ms. Stewart.

How are SECP and the ICP funds allocated among the States? How do you divide them up?

Ms. STEWART. They are allocated by formula, which NASEO feels is appropriate at the moment and agreeable to all the States.

Mr. MOORHEAD. The moment changes from year to year.

Ms. STEWART. No, actually, the formulas for the allocation of the SECP and ICP dollars have been handled very well and have not been a subject of great contention among the States or within NASEO.

Mr. MOORHEAD. You all seem to be happy.

Ms. STEWART. With the formula, correct. With the level——

Mr. MOORHEAD. They would like a little more.

Ms. STEWART. Sure, we would like a little more, but the formula works.

Mr. MOORHEAD. Is it possible to calculate the impact SECP and ICP and the Weatherization Program have had on the greenhouse gas emission?

Ms. STEWART. I believe that the Department of Energy had—and someone can correct me if I am wrong, but I believe the Department has done some work on that and probably has some information that they could provide in terms of the impact of the SECP and ICP programs nationally.

Certainly, in Indiana, we have evaluated that as well, and I would be pretty certain that most of the States in applying their SECP and ICP resources have evaluated or are evaluating on a continual basis the impact of those resources on pollution reduction, greenhouse gas emissions as well as other environmental benefits that result from the use of those dollars.

I don't have those numbers in front of me, but I think both on a State-by-State basis and a national basis those could be provided.

Mr. MOORHEAD. Thank you very much.

Thank you, Mr. Chairman.

Mr. SHARP. Thank you very much, Mr. Moorhead. Let me follow up—and unfortunately, we are running short of time, but I mean one thing is that it seems to me we should take great pride in the way in which we have made enormous progress—not as much as many of us would advocate or like in some of these areas, but the reality is with CORECT and COEECT, with minimal Federal dollars, and aggressive leadership by two of the folks here before us, among others, we are seeing our private sector find itself in a far better position to compete and to be engaged in something that is both of private interest and public interest in this country.

And I think it is a model. And in a world with so many things going on, those kinds of things oftentimes do not get highlighted.

I think the same applies to our State Weatherization Programs that are plodding away at a time when most of the public is not paying attention to these. Naturally, they are not the high-priority items for many citizens. Nonetheless, we see dollar payoff by taxpayers in which we have gotten multiple dollars of returns to the economy and transforming, in some cases, many households, such as in the examples Mr. Norman gave us; and it behooves us to step aside and recognize that from time to time.

Because these are not big drains on the Federal treasury, and these are—in all cases, including the Weatherization Program and others, leveraging other investment dollars that have a payoff for the broader public interest. I think it is important to recognize that.

Let me turn to Ms. Stewart and say about the formulas that while we do not have fights—I wanted to just sort of speak to both Mr. Norman, and Ms. Stewart, since a few of her members are engaged in the question of the LIHEAP formula and Weatherization formula—as to how we are going to distribute these funds; and Mr. Riggs was testifying they are seeking a consensus from some of you folks on how to do that.

I would just urge you to do everything you can to push each other to come to as much of a consensus as you can, because we have great difficulty here in being able to politically arrive at a conclusion. You undoubtedly are having the same political difficulty, but at least you folks are more intensely knowledgeable and on the ground with the program; and it will make our job a lot easier in the reauthorizing process if we do not get bogged down, as we regularly do on some of these things, over a mad political fight that may not turn out to actually serve the interests that we think we are serving when we adopt the formula. Because it will invariably involve an intense compromise and probably be done at the last minute in the legislative process, without as good a knowledge of how the formula actually, in fact, works.

So I guess what I would stress with you, as well as the Department, is that it is imperative that you move forward as rapidly and as certainly as you can so that we can have a comfort level in the legislative process that we can depend upon you folks and the Department to exercise its public authority to set that, and then we can proceed with the other issues and avoid the tough political battle.

Mr. MOORHEAD. Mr. Chairman.

Mr. SHARP. Mr. Moorhead.

Mr. MOORHEAD. You know, I think we all believe very strongly in these conservation programs and having alternative forms of fuel, but I know we talked earlier, before I got here, about the Strategic Oil Reserve and so forth. I very strongly believe that we should fill that reserve. I have a feeling it is a terrible mistake when oil is at a reasonable price and it is available that we not have that security for our country.

I do not want to see them tie it to the Naval Petroleum Reserve in California. I think—they have not been tied together before, and I think it is a drastic mistake for them to tie it together.

Mr. SHARP. They are technically tied together, but we keep exempting the——

Mr. MOORHEAD. I know, but the wording. I have been on this Energy Committee for a long, long time and I believe that America must have the protection of having a source of energy that is available to us, and that includes conservation, and includes wind and thermal and solar and a whole raft of things. And they are being used to a great extent out in California, in my State, I think you all know.

But oil is something that is extremely valuable to us, and I do not want to see us use it up too fast. But we are going to have to have it to keep the machinery running down through the years, and the more protection we have with that reserve—I know you fought to build up that reserve, but it seems no administration wants to spend the money on it. And while the Democrats were urging for it to be filled under Bush and Reagan, they are dragging their feet right now; and I think it is a big mistake.

I said it was a mistake when Bush and Reagan were not doing it, and I am going to say just as loudly that it is a mistake now.

Mr. SHARP. Well, I certainly agree with your logic and have always been an advocate of filling. I find that I am beginning to run out of steam on it, not because there is a Democratic administration, but because it is confirming the budgetary realities that Republican and Democratic appropriators in the House and Senate and both Bush and Reagan and Clinton administrations have taken, which is everybody says they would love to do it until they are confronted with the deficit and alternative spending things.

Mr. MOORHEAD. But it is a question of priorities. We are spending money on a lot of things that are not as important.

Mr. SHARP. I couldn't agree more. One of the reasons I sought vigorously an alternative financing mechanism was just the screwball way we had to do it because of jurisdictional reasons, where we were going to force the oil companies to contribute what really was a tax, is what it was intended to be, on crude oil, so that we would have the money to put in the reserve. And it cost us less than half a cent per gallon of gasoline, which the market goes way up and down and around for the half cent by the consumer.

So I don't think anyone would have known or cared, except we would have had a steady funding stream for the reserve. Well, Senator Johnston was unable to get that and we were unable to get that in the House of Representatives, in the committee. So it is a real tough problem now to get the dollars out of everybody to pay for the oil.

A year from now if there is a crisis, you can be sure there will be a new desire to do it. Of course, as people alluded to, we will buy it when the oil is more expensive, instead of now when it is smart to do it with fewer dollars.

I want to say I appreciate that the gentleman has always been a strong advocate and supporter of these conservation and renewable resource programs, as well as the reserve; and that has been extremely important politically to accomplishing these things through the years that nobody cared, and we have seen real progress—and his State, unquestionably, has been the leader—and sometimes we ended up trying to adopt at the Federal level what California had already demonstrated was workable.

Mr. MOORHEAD. Thank you.

Mr. SHARP. I appreciate the gentleman's time and attention.

This is not the appropriate hearing to raise it, but we will be talking with the gentleman from California about it, and maybe Mr. Krapels or Mr. Rezendes might want to shed some light, but the issue is arising in the process over the question of the ban of exports on Alaskan oil out of the recognition that there are enormous transportation efficiencies, savings of money to be gained by changing that distortion in the market as well as keeping up enhanced production investments, or to allow for enhanced production investments in Alaska as well as California production, which is depressed by the ban.

Mr. MOORHEAD. That is causing nothing but trouble.

Mr. SHARP. And I think there is an additional question which relates to Naval Petroleum Reserve out of there, which is, the taxpayers would probably get more money for their assets with that, but that ban depresses the value of the Federal assets and the Federal revenue that is therefore gained from the sale of the oil out of the reserve.

I don't know if Mr. Krapels or Mr. Rezendes wants to comment on that.

Mr. REZENDES. Yes, Mr. Chairman. In fact, we touch on this issue in our report that we are releasing today, which we did for you, looking at the ways to enhance revenues from the Naval Petroleum Reserve. We note that lifting the ban on the export of Alaskan North Slope oil would certainly increase the prices of oil in California, which would have——

Mr. SHARP. Crude oil?

Mr. REZENDES. Crude oil, which would likely increase the prices received for oil from the Naval Petroleum Reserve.

Mr. SHARP. Mr. Krapels?

Mr. MOORHEAD. Mr. Chairman, I think a big problem is on the Alaskan crude, people are concerned about what would happen in times of shortages of fuel when we did not have a ready supply available to buy. We obviously would need to make our contracts for selling it to Japan and others that would allow us to be released at times when we did not have a supply ourselves.

But California crude is available and it is cheaper in many ways to buy oil from Venezuela or other places; if we were selling our oil crude from Alaska to Japan, it is kind of a trade of dollars, but it would enable us to get the most and the best out of what we had available.

Mr. MOORHEAD. A lot of the wells in California are shutting down, never to be opened again, the slow producers, because there is so much of that heavy crude coming down from Alaska, and they just cannot make it on the amount of money they can be paid.

Mr. SHARP. Mr. Krapels, you wanted to comment?

Mr. KRAPELS. Congressman Moorhead, I agree with that entirely, and it is an utterly unnecessary loss of domestic crude oil production. And the crude export ban is another relic, really, of a different world. The oil market is so different today from what it was 20 years ago that there are many ways of securing California's crude more cheaply than, or West Coast crude, more cheaply than by banning export crude. It hurts everyone. It is a loss-loss any way you look at it.

Mr. SHARP. We are carrying on because I was very concerned, and I did not mean to correct Mr. Rezendes. He knows the issue very well on crude oil prices, but we wanted to make sure people understand that many economists and others believe there is quite a difference between consumer prices and crude oil prices, and that the changing of the ban is less likely to have an impact on consumer prices and much more likely to have an impact on production prices and the margins that are made by both producers and refiners and the people before the consumer ever sees this.

But the impact on the consumers is likely to be very negligible because of a highly competitive market. That is my understanding at this point; and some people want to argue differently, and that is fine. But it seems unlikely that either consumers or security of supply is being protected by something that sometimes runs counter-intuitive—when you think you are preserving a supply for ourselves and, in fact, you are forcing it into much more expensive transportation and rearranging all kinds of production and distribution channels as a result. It is just eating up dollars to do so.

Well, ladies and gentlemen, I certainly appreciate your time and attention to this. We appreciate your recommendations and suggestions. We are, on our subcommittee, going to make sure we have a consensus to move forward on the reauthorization issues here, and we appreciate your attention on the matter.

Thank you very much.

[Whereupon, at 11:40 a.m., the hearing was adjourned.]

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